

ANICANA

White Paper 2,01



ANICANA LABS 21 February 2023

ANICANA Project

Handling Preacutions

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An Autonomous and decentralized authentication network by Web 3.0

Proposal of "ANICANA"

Abstract

In ecosystems related to various transaction data generated by smartphones and other various devices, public key infrastructures (PKI) are used to guarantee identity data of the entities and build trust between those. Moreover they contribute to improving the reliability of the ecosystems from the perspective of non-repudiation of data transactions. However, if the certification authorities, which are the only organizations that guarantee identities, are compromised, all those trust relationships will be compromised.

Mutual authentication can be used to build trust relationships between certificate authorities but it cannot be guaranteed that an appropriate trust relationship can be built simply by relying solely on the independent judgment of each certificate authority. In addition, the reliability of the ecosystem requires not only the advancement of technological capabilities but also compliance with real-world governance, and other aspects of adequacy.

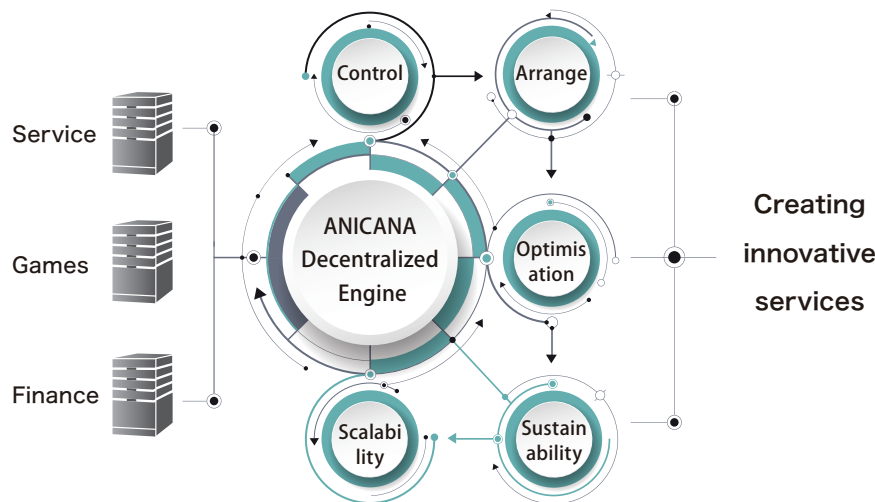
Therefore, we have developed a unique distributed authentication system called "ANICANA" based on Web3. An autonomous decentralized network system that utilizes smart contracts and guarantees that appropriate trust relationships are built between the certificate authorities while allocating those to each entity. Through this, network participants will establish mutual trust from relationships through a mutually authenticated method based on unified criteria and strive to contribute to the world economy and the international community by creating innovative services in compliance with society's rules.

1 Ab initio

With the advancement of technology, an environment is gradually being established where diverse data on various blockchains can circulate. There are high expectations for further effective utilization of blockchain technology, such as non-fungible tokens (NFTs) and the digitization of securities (Security Tokens), in this evolving landscape.

On the other hand, due to the reality that legal frameworks and interpretations in modern society have not kept up with the pace of technological innovation, there have been numerous instances of projects becoming subject to regulation as illegal services and cases of fraud. Addressing these challenges and improving the trustworthiness of data transactions through the construction of algorithms in line with international regulatory standards could encourage the effective use of further decentralized services.

Figure 1 Network participants



Considering this context, it is believed that establishing processes in the data definition related to the ANICANA network, in line with the current legal standards, can contribute to addressing the challenges of decentralized services themselves.

Additionally, to enhance the trustworthiness of data transactions, this promotes a role model where network participants collaborate to increase the fluidity of technology and ideas beyond industry boundaries and further expand services created within each organization to the external ecosystem is proposed.

1.1 About ANICANA

ANICANA is a general term for blockchain system engines and related open source software projects in autonomous decentralized networks, developed by the ANICANA Members. The name of ANICANA is a coined word that combines the Latin words "ANIMA" (meaning: to breathe life into) and ARCANA (meaning: secrets or mysteries), intending to convey the meaning of a mysterious entity that breathes life.

"ANIMA" is set as a Gas token required to use ANICANA, and it is intended to be used as a utility token. It is also designed as a versatile infrastructure utilizing Web3.0, capable of building innovative products in X to Earn. The ANICANA network is a decentralized system without specific administrators, allowing data to be transmitted from user to user in a peer-to-peer fashion without the need for intermediaries. Transactions are verified by network nodes, and all transaction history on ANICANA is recorded in a distributed ledger called blockchain.

The concept of ANICANA was started in 2017, and after being academically organized by researchers and engineers, the Anikana Gas token "ANIMA" was released in June 2022. In the development of ANICANA, "Overture.Zero" was implemented as the first phase of the Proof of Concept in February 2022, and the first beta version "Initium 3.1" was released on November 30, 2022. In 2023, "ClariS 1.0" will be released with network stability and usability improvements in Initium 3.1.

Developers: ANICANA Members	Ai Ichinose. Ram. InfiCreo Zrt. ORANGECODE-FZCO. Animate Ark inc. LEVIAS inc.
Programming languages	C++, Go, JavaScript, Python, Java, node.js
Compatible OS	Linux, Windows, macOS, POSIX

1.2 Blockchain overview

Consortium type private chain

ANICANA operates as a Quorum-based private chain, constituting a decentralized network.

ANICANA enables various token issuance and transactions based on people's experiences. Smart contracts for token transfers adhere to standards such as ERC-1155, ERC-721, ERC-20.

Below is an overview of the main two use cases.

1. Becoming a participating node in the network

By launching the ANICANA package and obtaining approval by a permission-typed node (called Knight), one can become a participating node (called Pawn). The process is designed to be operational with minimal specialized knowledge of blockchain.

2. Sending transactions to the network

Nodes have a JSON-RPC interface compatible with the Ethereum series (EVM), allowing connection from existing Ethereum-based tools (such as Metamask and Remix IDE) to their endpoints. Additionally, basic operations can be performed from the dedicated ANICANA wallet.

System Environment Conditions

OS Linux/UNIX

CPU 4 Cores

Memory 8 GB

HD 100GB

Middleware

No	Items	Version	Intended use
1.	git	2.24.3	For getting open source from github etc.
2.	gcc	4.0.0 and above	For building Quorum
3.	open JDK	11 and above	For running apps such as tessera
4.	go	1.14.4 and above	For building Quorum
5.	geth	1.9.7-stable	For running Quorum nodes
6.	istanbul-tools	v1.0.3	For creating genesis parameters for istanbul private chains
7.	maven	3.6.3	For building tessera node apps
8.	tessera	1.10.6 and above	Executing Quorum Nodes (Using Private TX)
9.	node	v10.20.0 and above	For running Quorum node apps (scripts)
10.	npm	6.14.5 and above	For installing Node packages
11.	gradle	6.5.1	For building tessera node apps
12.	solc	2.6.10 and above	solidity compiler
13.	python3.0	3.0 and above	For contract deployment, for script execution

Gas

In ANICANA, "ANIMA", which corresponds to cryptographic assets, is defined as a Gas token, but there is no Gas charge for normal transactions. ANIMA is designed primarily as fees and rewards for the execution of various smart contracts operating on ANICANA.

Network

ANICANA operates without reliance on any specific central governing entity and utilizes the entire Peer-to-Peer network as the program execution environment, sharing the processing and results of the program. It allows the description of unique definitions (MATRIX) through smart contracts, enabling network participants to write and execute any smart contract on ANICANA's blockchain. Furthermore, ANICANA's network participants can activate the economics within ANICANA by executing smart contracts on the blockchain through a process called "extraction," aiming for the Gas token, ANIMA, in the process.

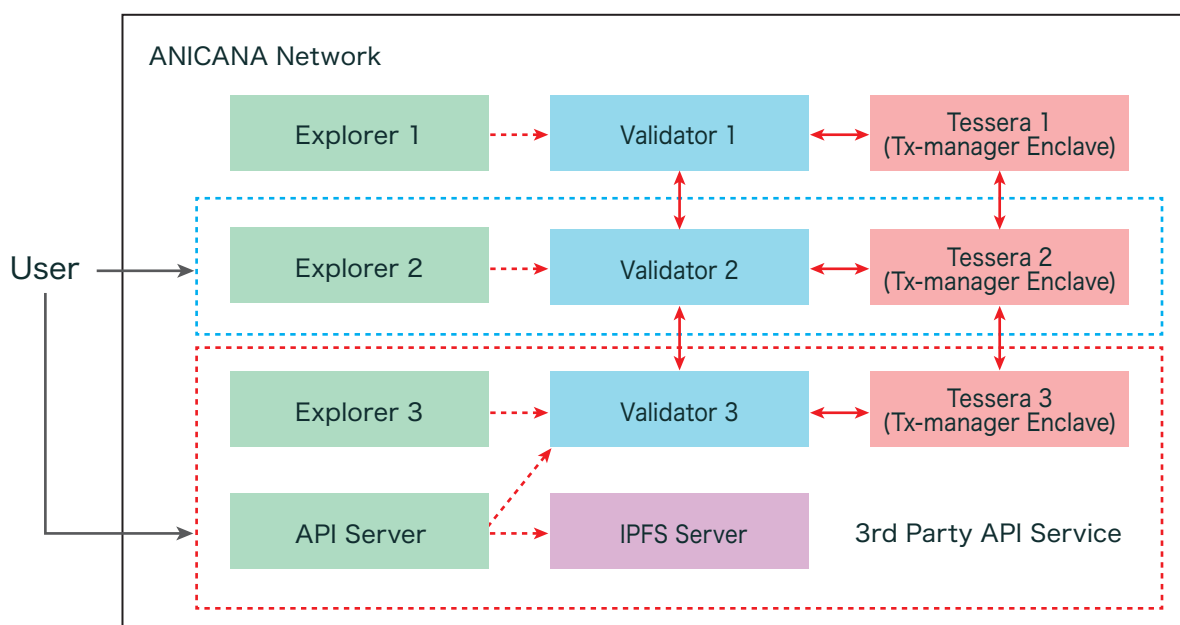
Consensus Algorithm

ANICANA's consensus algorithm adopts IBFT (Istanbul Byzantine Fault Tolerance). The block generation interval is set to 5 seconds, and encryption is implemented for private transactions. Blocks generated by IBFT are signed by the block's proposed node and multiple Validators, making it highly tamper-resistant since altering the block would require knowledge of all their private keys.

System Configuration

The Validator client (based on GoQuorum), Private Transaction generation client (Tessera), and control API client all are packaged in a docker file and are provided as ANICANA clients. It also includes Explorer for viewing transactions and a user interface for managing assets such as EGG and MATRIX (MX). This set is configured with a minimum of four Validators, forming the consortium.

Figure 2 System Configuration



System Configuration

API Server

The API Server is provided by third parties to game makers and publishers, and mediates transactions on ANICANA so that those can be executed easily.

Blockchain Explorer

With the Explorer participants can refer to the detailed history information including blocks and TX on the private chain. Participants in the private chain network can access blockchain node information via a browser.

Validator and Tessera Node Set

The Tessera node is required to generate private transactions.

Participation as a Validator (Pawn)

The configuration operates under an approval system by permission-type nodes (Knights of the Round Table).

IPFS Server

An IPFS service is configured to store files such as metadata and image data. The IPFS cluster manages the pin function of the file on each IPFS node.

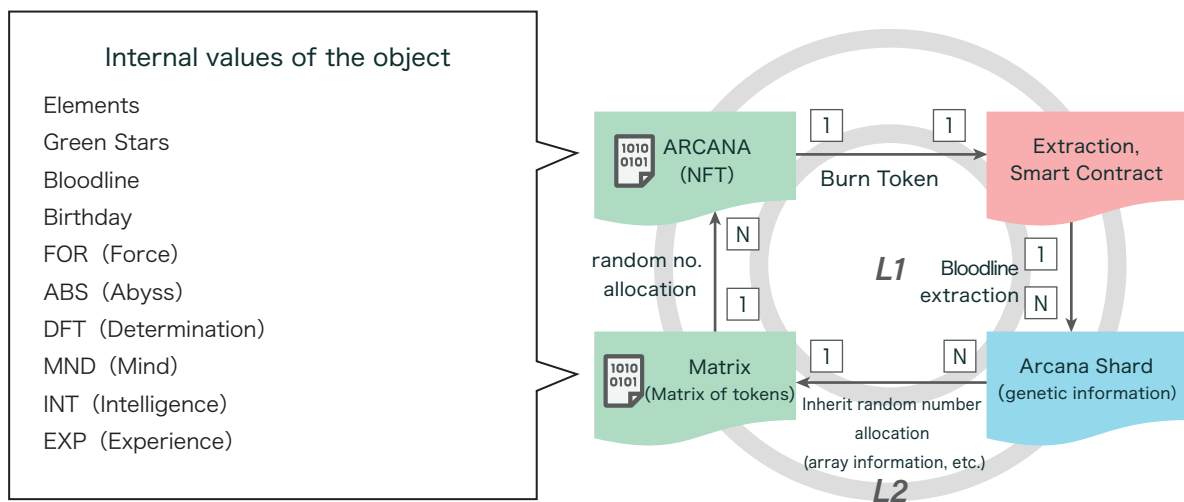
1.3 Design Concept

ANICANA is designed with concepts such as "life," "soul," and "mystery" as its core themes in system design. The objects created on ANICANA have multiple internal values, and a unique token life cycle called "ARCANA Stream" is defined corresponding to these values.

What is ARCANA Stream? The concept is that when data (tokens, etc.) on Anikana disappears and returns to the system's core, the history and knowledge they possessed are accumulated as energy, and that energy also produces new data (life and soul), which results a cycle and repetition (samsara) of token generation and disappearance.

By activating ARCANA Stream, users participating in ANICANA can enjoy their unique services and products while realizing a societal structure where they can also benefit economically.

Figure 3 Design concept



Innovative product creation for X to Earn

By utilizing ANICANA, innovative products can be developed for X to Earn. Specifically, users can record their experiences as values, use these record values to tokenize them as NFTs on ANICANA, and trade them. Through trading, users can earn for the outcomes of the game. Doing so the economic cycle structure within ANICANA's unique decentralized protocol allows for the expansion of various services in X to Earn.

Create

In this system structure various objects can be created by using ANICANA. By becoming part of the network (Nodes) that can utilize these objects, anyone can participate in ANICANA.

Play

Users can use the record values of their own experiences to generate various NFTs (called ARCANA) on ANICANA. Various smart contracts that handle ARCANAs are deployed, and autonomous programs operate based on the service requirements.

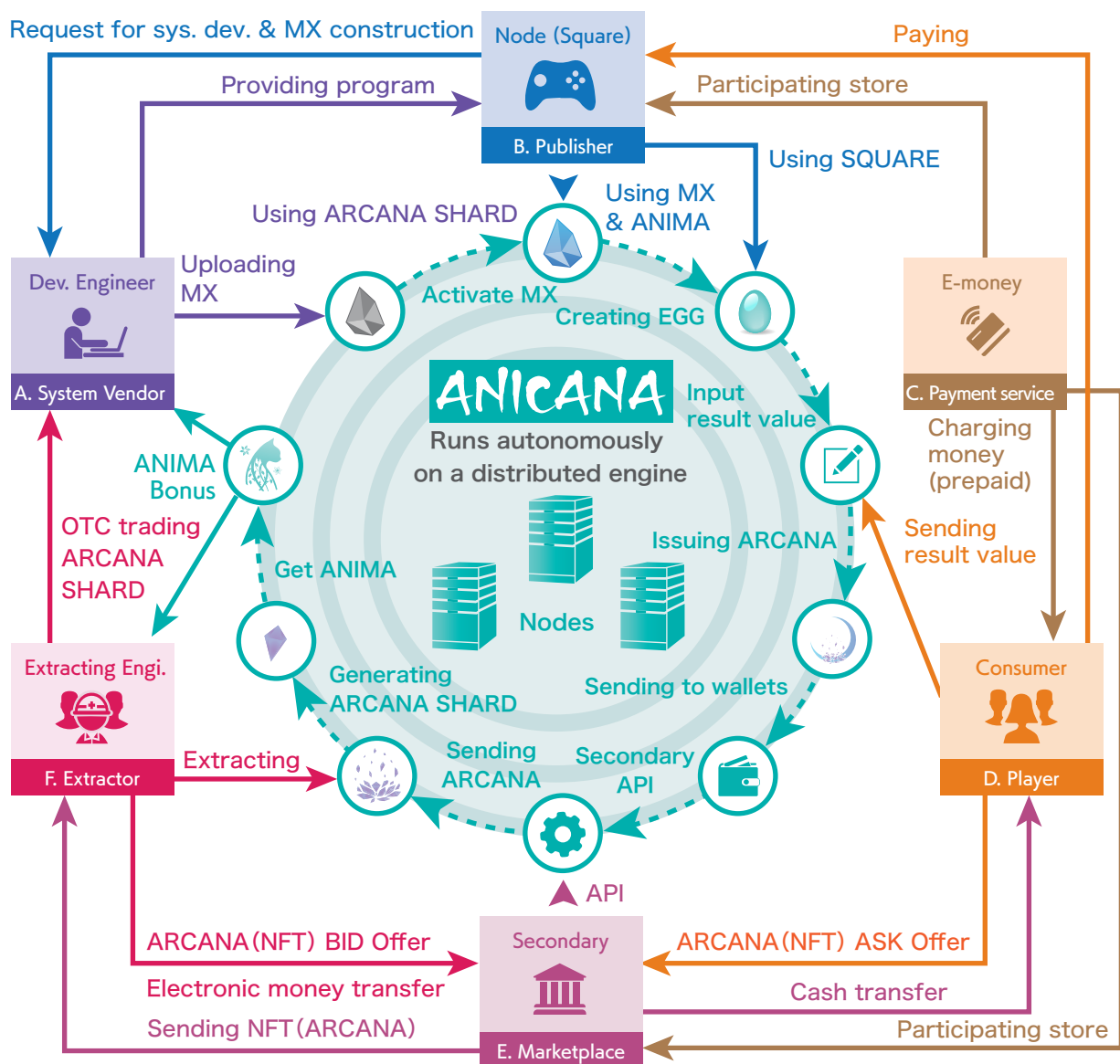
Earn

ARCANAs acquired within the game can be subject to secondary transactions. Depending on the acquired ARCANA, the purchasing price by buyers can be significant. ANICANA enables a new world where all user experiences are digitized, allowing users to convert them into economic compensation (fiat currency) in a legitimate format.

2 Economic circulation structure of ANICANA

The infrastructure in ANICANA's economic cycle structure is designed with a decentralized protocol taking into account technical elements and data definitions related to legal interpretations primarily in Hungary, Dubai, the United States, and Japan. This design considers regulations such as gambling laws and fund settlement law, therefore, as a result, it is now possible to implement a unique and unprecedented X to Earn system.

Figure 4 Economic Cycle Definition.



- | | |
|-----------------------|--|
| 1. ARCANA SHARD | Authentication code required to activate the smart contract (MX) |
| 2. MX | Smart contract specification |
| 3. EGG | Token's substrate contract |
| 4. SQUARE Key | Key object required for smart contract processing (creating EGG) |
| 5. ANIMA | Gas Token |
| 6. ARCANA | NFT that can be issued from EGG |

2.1 Characters in the Economic Cycle

A Develop. engineers / system vendors, etc. ~Earning by developing programs~

Development engineers primarily provide programs related to the development of MATRIX, the standard for smart contracts and various authentications for each node on ANICANA. The development engineers design smart contracts and earn revenue by broadcasting MATRIX on ANICANA using ARCANA SHARDs based on the development contract for MATRIX from each node (Square). Additionally, within the cycle structure, it becomes possible to receive ANIMA, the Gas token on ANICANA, as a reward for specified tasks.

B Participating Nodes (SQUAREs) / Publishers - Earning by providing services

Participating Nodes (SQUAREs) / Publishers can integrate their in-house front-end services (e.g., games) with ANICANA, which serves as the backend. Players (consumers) can call the ARCANA generator from the provided environment (interface) by the participating node (SQUARE) and generate ARCANA using their own result values. Additionally, participating nodes (SQUAREs) can offer and sell NFTs and PERSONAs issued in-house to players, allowing them to generate revenue through billing sales and persona sales.

C E-money payment services (prepaid providers) ~Earning from payments~

Services utilizing standards of electronic money like LEVICA, aimed at improving the economic rationality of transactions on ANICANA, can be implemented. The issuers of prepaid electronic money can construct a settlement flow based on their proprietary economic zone and generate revenue through transaction fees.

D Player / Consumer - Earning through service-based experiences

Players (consumers) can purchase electronic money such as LEVICA, and use it to make payments for various services. By using the results of their experiences gained from various services and sending them to the ANICANA network through tools like the ARCANA generators, players can generate their own ARCANA. Furthermore, they can nurture personas by acquiring NFTs (PERSONAs) issued by various SQUAREs and generate revenue by selling those ARCANA and PERSONAs.

E Secondary Marketplace / Market Operator ~Earning from trading commissions~

The secondary marketplace (market operator) is a service that allows to buy and sell NFTs (mainly ARCANA and PERSONAs). As a transaction intermediary, it executes matching transactions for offers made by sellers and buyers. Upon agreement, it confirms the payment from the buyer, processes the payment to the seller after verifying the receipt of the funds, and completes the transaction. Buyers can make payments using electronic money or ANIMA, the Gas token on ANICANA. Sellers can receive the payment via bank transfer or ANIMA.

2.2 Extractors (Earning by acquiring ARCANA)

ANIMA that can be acquired through extracting

Extractors (Extracting Engineers) can get the authentication codes "ARCANA SHARDs" inherent in ARCANAs by disassembling (Burning) them. Through this process, they can acquire ANIMA from ANICANA's algorithm. Extractors are expected to act as buyers for ARCANAs available in the secondary marketplace, with the purpose of getting ARCANA SHARDs and acquiring ANIMA.

※Please refer to page 24 for more information about ANIMA.

ARCANA SHARDs that can be acquired through disassembling

ARCANA SHARD can be sold by extractors to development engineers, as there is a demand for MATRIX development. Extractors can receive compensation through commissioned work from development engineers by selling the ARCANA SHARDs.

※Please refer to page 14 for more information about ARCANA SHARD

Conditions for decryption of data related to user experience "MANA information"

MANA information refers to personal text data related to user experience provided by various service providers, delivered during ARCANA generation. The MANA information is encrypted and can be decrypted using the SQUARE Key and the specific ARCANA. By possessing ARCANA, you can obtain part of the decryption conditions required to access the encrypted MANA information recorded on the blockchain.

Fusion of ARCANA

ARCANAs can execute smart contracts that allow fusion with other ARCANAs. Depending on the internal values of the ARCANA being fused, the internal values of the base ARCANA change, and the fused ARCANA disappears. By nurturing ARCANA, they can be absorbed by PERSONAs or get high prices in the secondary market.

※Regarding ARCANAs, please refer to page 15.

Absorbing ARCANAs by PERSONAs

A PERSONA can execute a smart contract to absorb ARCANAs up to 5 times. Depending on the internal values of the absorbed ARCANA, the internal values of the absorbing PERSONA change, and the absorbed ARCANA disappears. By nurturing PERSONAs, you may receive items through Draw Chains or get high prices on the secondary market.

※Regarding ARCANAs, please refer to page 15.

2.3 Flow of the Economic Cycle



Characters

- Development Engineer (System Vendor)
- Game owner (publisher)
- Extractor (extracting engineer)
- Player (consumer)
- Secondary (marketplace)
- ANICANA (Web3)

3 Main objects related to ANICANA

ANIMA, the Gas Token

ANIMA is a Gas token that means “life,” “fuel,” “energy,” etc. on ANICANA, and is issued based on an algorithm designed on the system (abbreviation is ANM). Changes in the total issuance and issuance conditions of ANIMA are not allowed once determined and are processed only through predetermined logic. The smart contract complies with ERC-20.

*Regarding ANIMA, refer to page 25.

MATRIX, the smart contract that are the "vessel of tokens"

MATRIX contains the smart contract specifications that serves as the "vessel of tokens." (abbreviation is MX). MATRIX is constructed by engineers designing smart contracts and is deployed on ANICANA. To broadcast (activate) MATRIX on ANICANA, it is essential to send a dedicated authentication code, known as "ARCANA SHARD " to the MATRIX Instance. The amount of ARCANA SHARD sent is defined in MATRIX, and each broadcasted MATRIX is assigned a specific No (e.g., MX-123) in order. According to the process defined in MATRIX, every time a specific smart contract is activated, and ANIMA will be Block Rewarded to the wallet address of the engineer who broadcasts the MATRIX.

ARCANA SHARD, Authentication code required to activate MATRIX

ARCANA SHARDS are consumable authentication tokens that are prerequisites for activating MATRIX on ANICANA. Smart contracts comply with ERC1155.

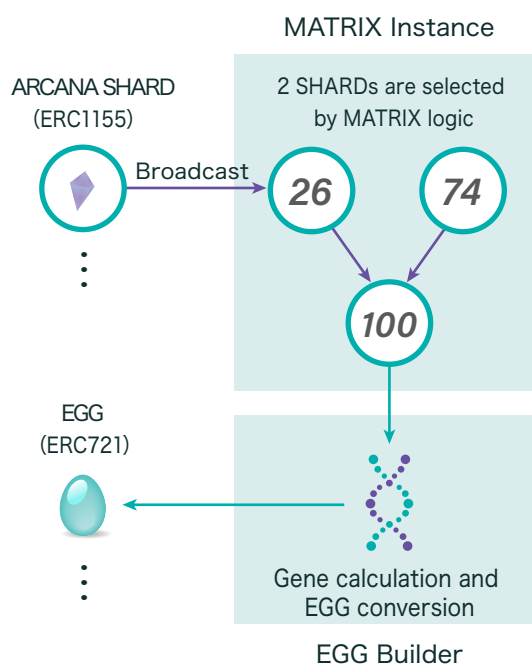
ARCANA SHARDS are defined as genetic information (values underlying the calculation formula regarding the internal values of tokens) that determines the internal value of tokens issued using MATRIX according to its nature, quantity, and ratio.

ARCANA SHARD is primarily generated through a specific process performed by "Extractors", where tokens are disassembled. The quantity of generated ARCANA SHARD is influenced by the internal values of the token and is determined by random numbers.

EGG, Substrate Contract for Tokens

EGG is a smart contract that serves as the substrate for tokens generated from MATRIX activated on ANICANA. The smart contract complies with ERC721.

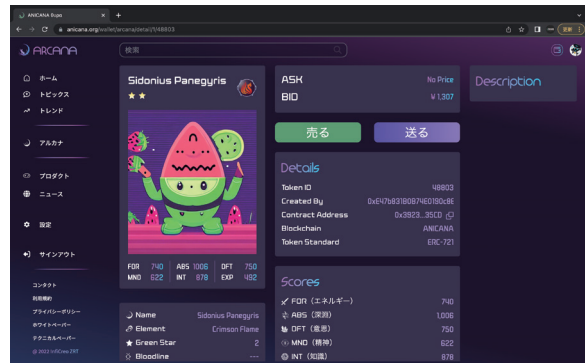
EGG is generated from the ARCANA Stream EGG Factory by using ANIMA as a nutrient (catalyst) for MATRIX. During EGG generation, the ARCANA SHARD sent via MATRIX broadcast is burned, and genetic information is calculated. Based on the definitions designed within MATRIX, private transactions and smart contracts are functional in generating non-fungible tokens (NFTs) as unique tokens on ANICANA by providing specific values to the EGG.



ARCANA / NFT standards on ARCANA

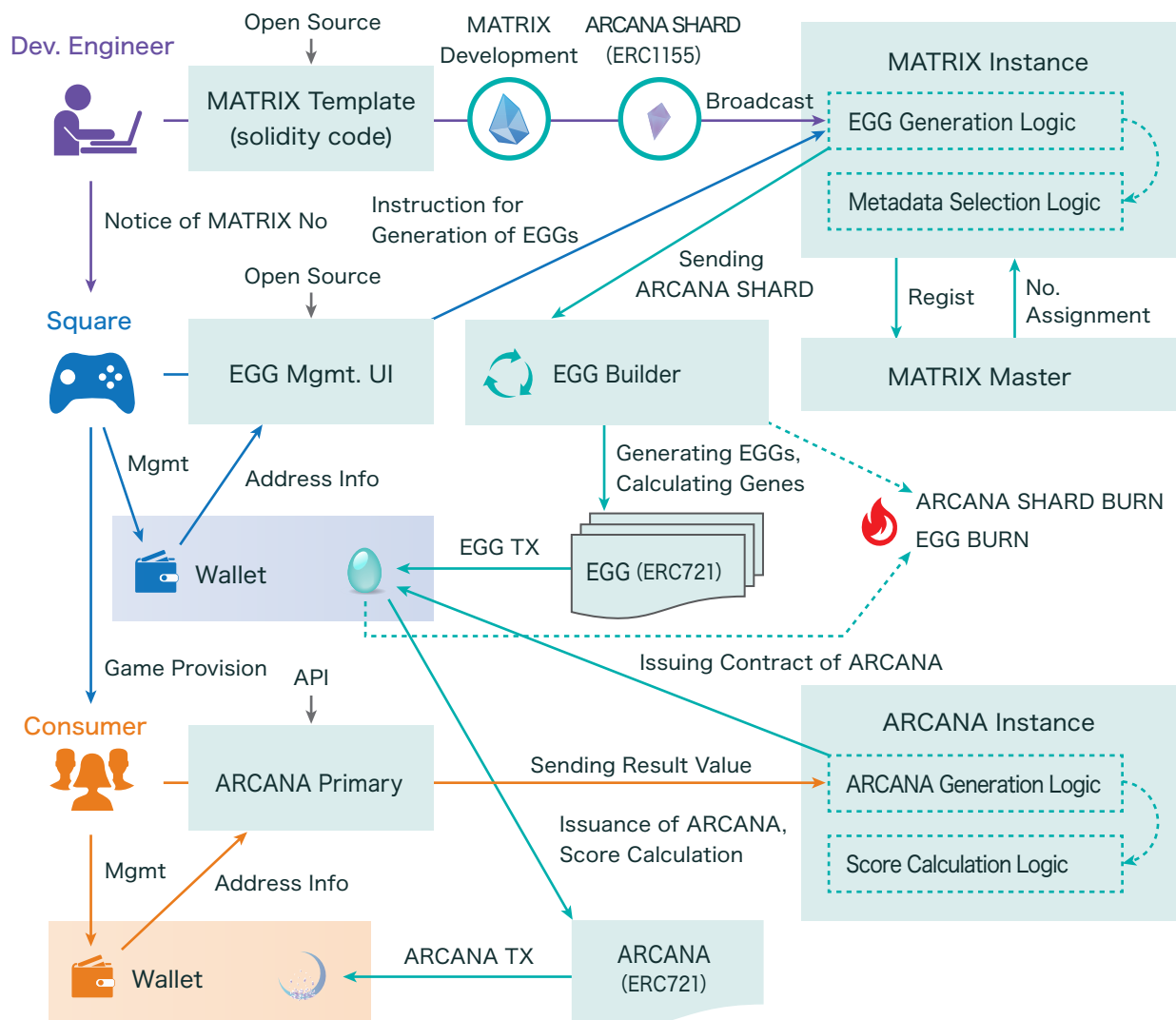
ARCANAs are the specifications for non-fungible tokens (NFTs) issued on ANICANA, and the smart contract complies with ERC721. ARCANAs can have the appearance of a trading card and various attributes/internal values (Scores) and properties (functions). To issue ARCANAs, you need EGGs and the defined configuration values in MATRIX as materials.

Image of ARCANA



An ARCANA is issued by setting the necessary configuration values, such as result values obtained from experiences, to EGG. While some of the ARCANA's Scores depend on the smart contract within EGG, a portion of the configuration values are allocated through randomness. Therefore, it's not possible to manually adjust what Scores the ARCANA will have from EGG in the end.

Figure 5 MATRIX - ARCANA Development

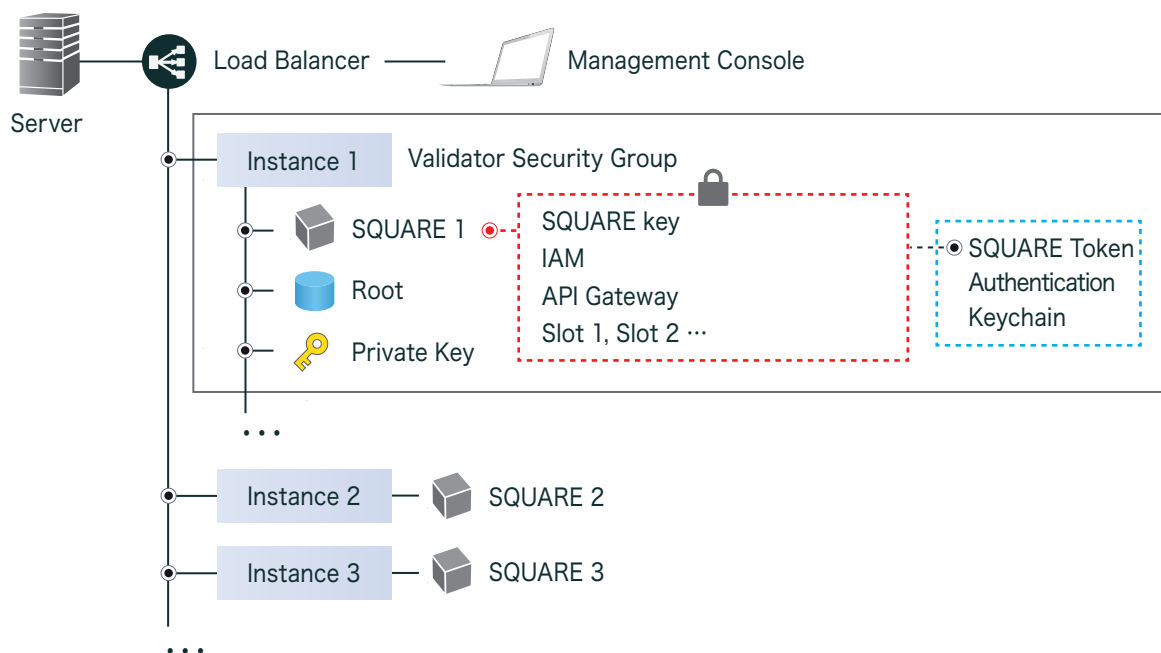


3.1 SQUARE

Key object (license) possessed by Validators required to execute smart contract

SQUARE is a key object (license) required to activate various functions (smart contracts such as generating EGG from MATRIX, generating ARCANA from EGG, etc.) and each node on ANICANA must possess at least one SQUARE Key. Nodes can use SQUARE to organize events, and users wishing to participate in the event can register their wallet address (decentralized ID on ANICANA) for participation in the event for each SQUARE. Validators, the organizers, can send push notifications regarding the service to registered users. Furthermore, SQUARE has properties akin to land in the metaverse utilizing ANICANA. If we liken each node to a building, SQUARE is designed to resemble a "floor" within the building. SQUAREs can be set up for each node, up to a maximum of five. Depending on the purpose, SQUAREs can be utilized and leased to third parties who have the right to use SQUARE (SQUARE key), providing flexibility in their usage.

Figure 6 Square Configuration



3.2 PERSONA

Tokens that function on ANICANA issued by each SQUARE

PERSONA is an NFT (Non-Fungible Token) on ANICANA that plays a role similar to a catalyst, triggering specific smart contracts. The smart contract complies with the ERC721 standard.

It is primarily generated by SQUARE owners and provided mainly to players (consumers). The provision of PERSONAs methods can vary, including for a fee or as a benefit at an event. Generating a PERSONA requires both a SQUARE and ANIMA. PERSONA has internal values, and SQUARE owners can set these values during the creation of the PERSONA.

Empower PERSONAs with object absorption contracts

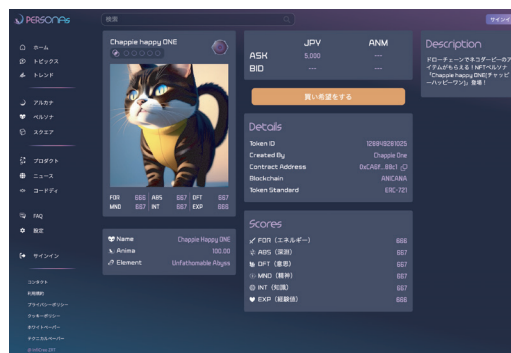
A PERSONA can execute a smart contract allowing it to absorb an ARCANA up to five times. The internal values of the absorbed ARCANA affect the internal values of the absorbing PERSONA, and the absorbed ARCANA disappears. This characteristic enables the creation of various added values.

When selecting a PERSONA for absorption, higher-value PERSONAs in a specific internal value called FORCE are typically chosen as the primary absorber compared to lower-value PERSONAs.

Conversely, if a lower FORCE PERSONA absorbs a higher FORCE PERSONA, the internal values of the absorbing PERSONA are more likely to deteriorate.

Players can enjoy the transformations brought about by absorbing objects. They can collect PERSONAs, utilize their abilities, and even sell them on the secondary market. This flexibility allows for an enjoyable experience similar to trading cards but with added dimensions.

Image of PERSONA



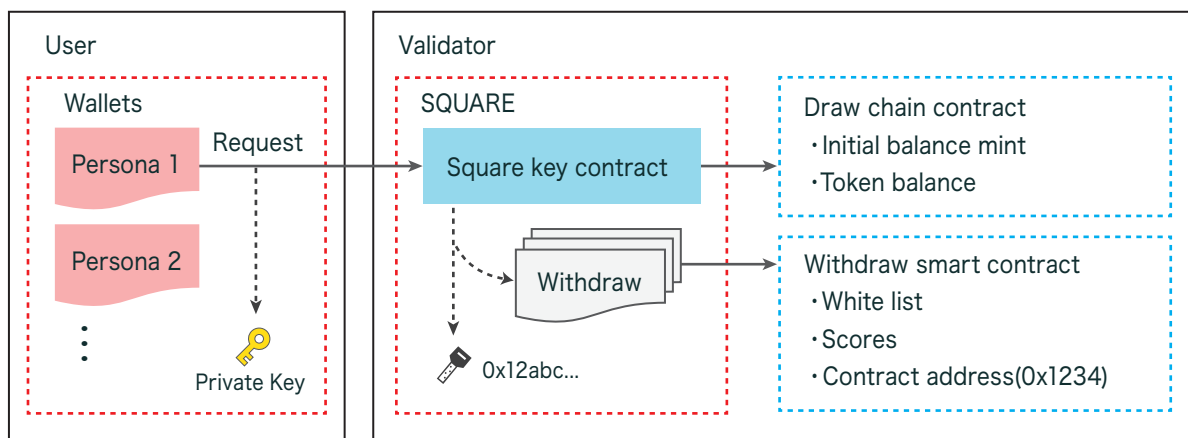
Drawchain, contract to draw specified data

A PERSONA is equipped with a smart contract called DrawChain. When the DrawChain is activated for a SQUARE, the SQUARE can withdraw specified data (services) associated with a designated PERSONA. The available data (services) for withdrawal are set based on the internal values of the PERSONA.

The history of using DrawChain is recorded on the blockchain and can be restricted for one-time or limited use within the same event.

PERSONAs possess various abilities and can be utilized in various services using ANICANA. Players can enhance the abilities (internal values) of PERSONAs through nurturing, engage in secondary transactions, or participate in events where SQUARE owners distribute limited in-game items. By utilizing DrawChain for SQUARE, a diverse range of presentations can be created. SQUARE owners can distribute a variety of items using DrawChain, including NFTs, tickets, cryptocurrencies, points, etc., making it possible to stage attractive events.

Figure 7 Draw chain contract



4 Validator that approves participation for each node (Pawn)

Knights of the Round Table

Knights of the Round Table refers to a group of Validators with the authority to grant participation approval to each node (Pawn) that wishes to join the ANICANA network. Validators must be approved to join the network by one Knight. * Excluding Initial Validator

Basic configuration

1. The Knights of the Round Table consists of a fixed number of 13 members.
2. The 13 members are made up of 1 Queen and 12 Knights.
3. Knights are given a number from 1 to 12 by the Queen.
4. Knights can not decline the appointment of Queen.
5. Validators must be approved to join the network by one Knight. Approved Validators are linked with the approved Knight No. and recorded on the blockchain.
6. The Queen has the authority to appoint and revoke the 12 Knights.
7. Queen automatically receives a percentage of ANIMA from the Validators.
8. The Queen's reign (term of service) is two years.
9. When a Queen's term ends, the next Queen is elected by a vote of the 12 Knights.
10. Only Validators have the right to become Knights.
11. A Knight automatically receives a certain percentage of ANIMA based on the Gas (ANIMA) paid to the system by the nodes they approved, in relation to their assigned number.

Queen

The Queen in the ANICANA network holds the power to appoint and dismiss Knights for each node participating in ANICANA.

The Queen can determine the amount of ANIMA each node participating in ANICANA pays.

When a node is appointed to a Knight by the Queen, the node is assigned a Knight's number, and the Knight cannot refuse the appointment.

The Queen is elected by a vote from the 12 Knights and can serve for a term of 2 years, with a maximum of 2 re-elections. There is no concept of candidacy in Queen elections, and Knights cannot vote for themselves.

A Knight is elected as Queen by obtaining a minimum of 6 votes. If the minimum vote requirement is not met through the election, the election is repeated until someone achieves the minimum votes. However, during Queen's absence, if the election process is prolonged, the supply of ANIMA to the Knights of the Round Table is withheld, resulting in a loss of expected ANIMA, emphasizing the need for a timely Queen election.

For determining the voting Knights during Queen election or to appeal their achievements, Knights have a dedicated chat room at their disposal.

With the agreement of three or more Knights, a motion of no confidence against the Queen can be submitted. In the event of such a motion, Knights must vote either "confidence" or "no confidence." If at least 9 Knights vote for "no confidence," the Queen can be dismissed.

If a Queen is dismissed due to a vote of no confidence, the dismissed Validator becomes a Pawn. In case of a new Queen's appointment, Knights are appointed by the new Queen, and there's no guarantee of reappointment for existing Knights. Even if a Knight is reappointed, if their number (position) is different, they will receive ANIMA associated with the new Knight number (position).

Knight(s)

A Knight possesses the authority to grant approval for participation to each node (Pawn) that desires to join. Only Pawns approved by a Knight can participate in the ANICANA network.

Participation approval is formalized with the approval of one Knight. A newly joining Pawn is assigned the number (No) of the Knight who granted approval for their participation.

The 12 Knights can receive a certain amount of ANIMA generated from Pawns linked to their respective No during their tenure as a Knight.

Figure 8 Knights of the Round Table

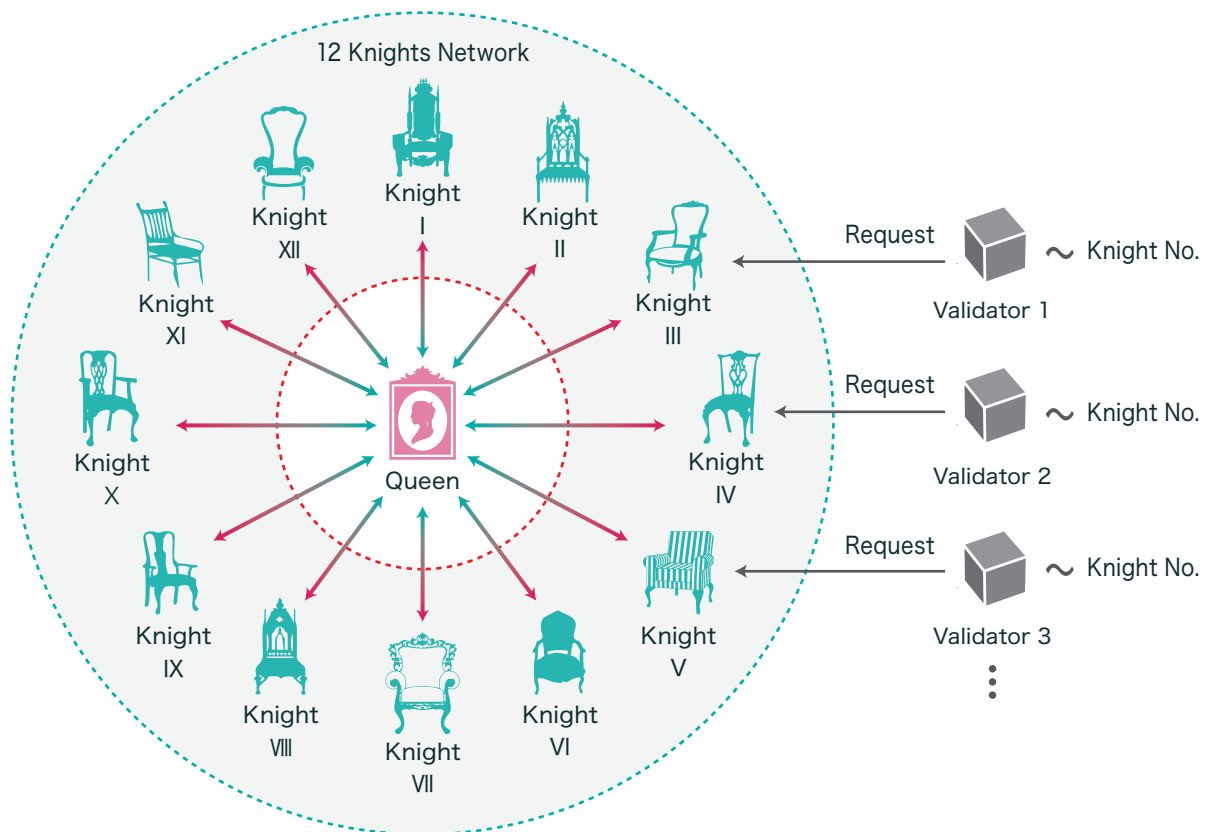
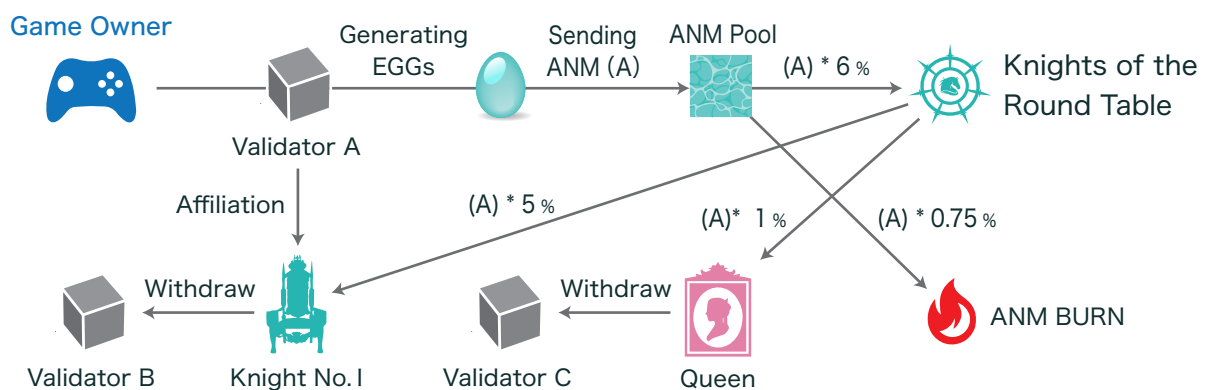
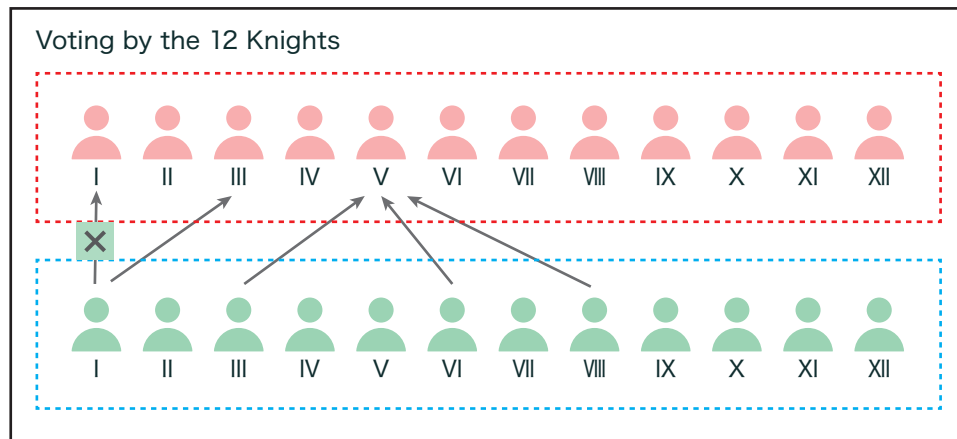


Figure 9 Knights & Queen Reward Flow



Vote to decide the Queen



Voting fairness and transparency

Votings are constructed to enable viewing of past voting records through a Voting Smart Contract, a Token Smart Contract for Voting, and a Smart Contract for Managing. The Token Smart Contract creates tokens for voting and grants a balance to each voter in advance. Each voter transfers the allocated token balance to the candidate they wish to vote for to cast their vote. In the end, each candidate determines their vote count in the voting based on the token balance they own. Since the voting is facilitated through token transfers, fraudulent voting can be prevented. All voting data can be verified on the blockchain, and the confidentiality of the voting contents is protected as the token transfer addresses are not linked to the voters.

4.1 Participation in the network

1. Instal the dedicated ANICANA node client.

The operating environment is as follows.

* Environment where Docker operates

Linux OS

64-bit kernel / CPU

At least 4GB RAM

200GB or more disk capacity

2. Set the private key of the account that will become the Pawn to the ANICANA node.
3. Start the ANICANA node client.
4. Log in to the Validator management system (distributed as a download client) with a wallet connection. * The private key set in 2 must be imported into the wallet.
5. Open "Pawn Request" from the Validator Console, specify the number and address of the Knight you want to apply for approval, and send the request transaction.
6. Automatically becomes active as a Pawn when approved by the designated Knight.
7. Check the operating status of the nodes on the Dashboard of the Validator Console.

Network participation limit

The maximum number of nodes that can participate in the network on ANICANA is 222 nodes in total. The upper limit on the number of nodes is not released all at once, but there is a pre-designed upper limit on the increase in the number of nodes each year.

Annual node increase limit

2022. 30 nodes, 2023. 100 nodes, 2024. 50 nodes, 2025. 25 nodes, 2026. 12 nodes, 2027. 5 nodes.

5 Linkage with various services (front end)

User wallet login

This is done by embedding provided JavaScript code into the frontend. The embedded code invokes the external services, ANICANA Wallet or the browser extension Metamask. After login, the user's blockchain address can be obtained. This address is linked and managed with user information in the backend of various services. Since only the holder of the secret key for the address can perform this authentication, it simplifies user sign-in, considering it equivalent to normal ID sign-in.

Generate EGG from MATRIX

1. Manage EGG from the ANICANA management console (download type UI).
2. Open the ANICANA management console in a browser and log in using the private key of the SQUARE owner's management account.
3. Open the EGG generation screen and call the EGG generation interface by specifying the MATRIX contract address created by the development engineer.
4. Make a transaction to generate EGG by paying the required ANM for EGG generation (ensuring the management account holds the required amount) and specifying the number of EGGs to generate. The EGGs you possess can be viewed from the dashboard.

Link various services (front end) with EGG

5. Select the EGG from the list of owned EGGs and execute the "Linking with the Frontend" transaction. To identify the linking target, specify one of the owned SQUARE tokens.

Generate ARCANA from EGG

6. The EGG's smart contract triggers the ARCANA generation process (writing the result value). The outcome of the user experience is returned to the user in the form of an ARCANA token.
7. From the backend server of the frontend, send the following information to the "Common API Server (mediates transactions to smart contracts and IPFS)":

Transaction input information

EGG ID, game result value, user address to receive ARCANA

Game administrator signature information (The signature generation method is explained in the developer documentation)

Update Metadata when EGG is generated.

When the transaction is completed, an ARCANA (NFT) will be generated for the user address.

6 Secondary Marketplace

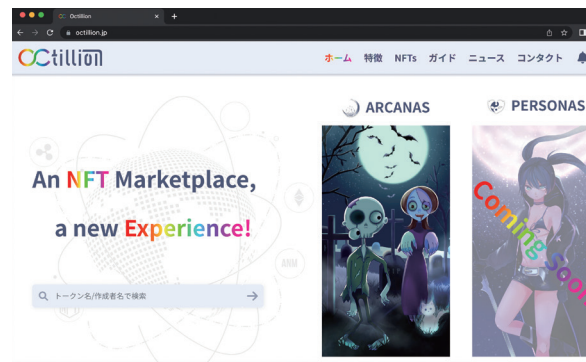
Octillion

Octillion is a secondary marketplace system that enables the trading of NFTs and other assets on AINCANA. In the initial phase of the secondary marketplace on ANICANA, Octillion β 1.12 was publicly available on the web browser version in December 2022.

Octillion can connect to blockchain APIs and decentralized applications, providing the world's first ARCANA secondary marketplace by integrating with various wallets to offer the optimal rates.

Basic information

Service start date	2022.12.18
Service provision time	0: 00-24: 00 365 days
Online utilization rate	99.89%
Online response time (※Compliance rate)	Within 5 seconds (95.2%)
Supported browsers	Chrome, Safari
Server	AWS
Development language	Laravel, React Native, MySQL (RDS)
Developer	Loop Connect Inc.



<https://octillion.jp/>

Functional Overview

Item management

Using blockchain API, searching wallet address in request parameter and displaying NFT detailed results

ASK Offer

After entering the amount for the held token, registering a sell order (order table), signing the wallet and executing the token transfer approval using the blockchain API.

BID Offer

Enter the amount and place a buy offer (order table)

Settlement

LEVICA address registration / payment API, credit card registration, payment processing

Matching

Comparing registered ASK / BID prices

In case of a buy offer - > sell offer, the trade is executed at the average price. In the case of buy offers of the same amount, the older one takes priority. The order status for both sell and buy orders is set to "matched."

Contract

Using the LEVICA API, initiate automatic deposit process from the buyer (change trade.status).

Utilizing the blockchain API to transfer the seller's tokens to Octillion (change trade.status).

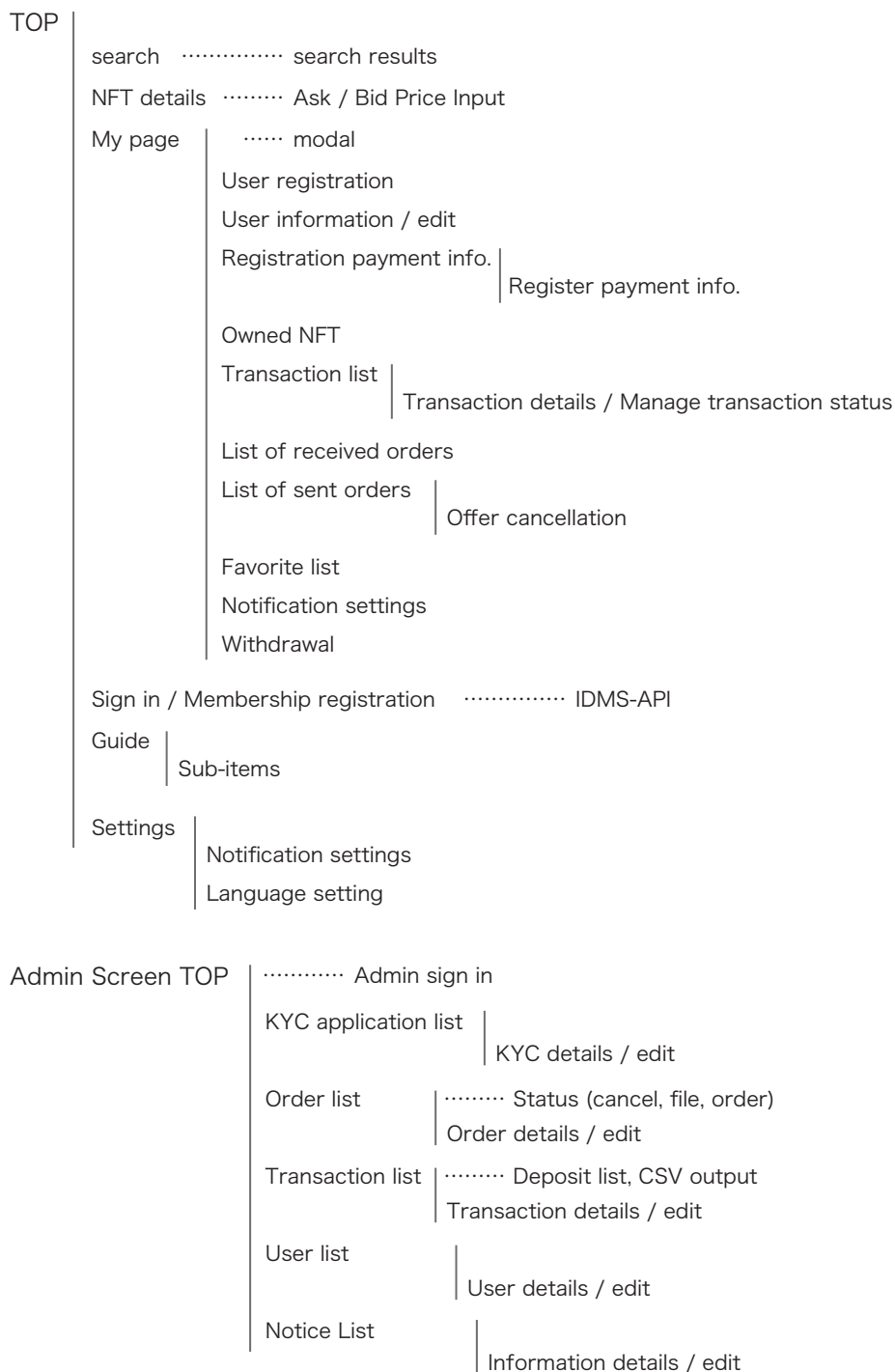
After confirmation of deposit from the buyer, transferring tokens from Octillion to the buyer (change trade.status).

Upon confirmation of token transfer, changing the status to "traded". Use LEVICA API to exercise the right of refund request.

Confirming payment to the seller via bank transfer from Octillion (business).

After confirming the payment, notifying the buyer and seller.

Figure 11 Octillion Sitemap



7 ANIMA

ANIMA is a Gas token that means "life," "fuel," "energy," etc. in the digital and global ANICANA network. It is mainly defined as a condition for processing a specific smart contract.

Token Overview

Token name	ANIMA
Symbol	ANM
Smart contract standard	ERC-20
Issuance limit	123,900,000,000 ANM
Issued ANM (as of July 2022)	37,170,000,000 ANM
Minimum issuance ANM	3,900,000,000 ANM
Dividable number	18
Percentage of participants required for voting (%)	22 %
Percentage required to pass a vote (%)	51 %

Scenes where ANIMA is required as Gas

When broadcasting MATRIX

When generating an EGG

When generating PERSONA

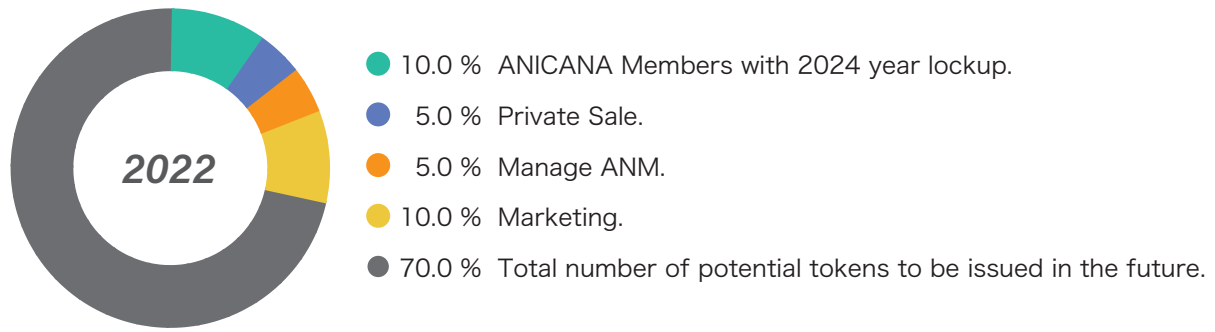
Allocation (Disbribution)

Annual Transition of Total Issued Quantity (Issuance Cap)

1. 2022	Number	37,170,000,000 ANM	30.0% of issuance limit	Cum. no.	37,170,000,000 ANM
2. 2023	Number	7,272,930,000 ANM	5.87% of issuance limit	Cum. no.	44,442,930,000 ANM
3. 2024	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	51,666,300,000 ANM
4. 2025	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	58,889,670,000 ANM
5. 2026	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	66,113,040,000 ANM
6. 2027	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	73,336,410,000 ANM
7. 2028	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	80,559,780,000 ANM
8. 2029	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	87,783,150,000 ANM
9. 2030	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	95,006,520,000 ANM
10. 2031	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	102,229,890,000 ANM
11. 2032	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	109,453,260,000 ANM
12. 2033	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	116,676,630,000 ANM
13. 2034	Number	7,223,370,000 ANM	5.83% of issuance limit	Cum. no.	123,900,000,000 ANM

※ANIMA will be issued for 13 years from 2022 and will not be newly issued after 2035.

Initial issue



Lock-up

12,390,000,000 ANM, which is equivalent to 10% of the issuance limit assigned to ANICANA Members, will be under a lockup period from November 30, 2022 to November 23, 2024, and transactions cannot be executed.

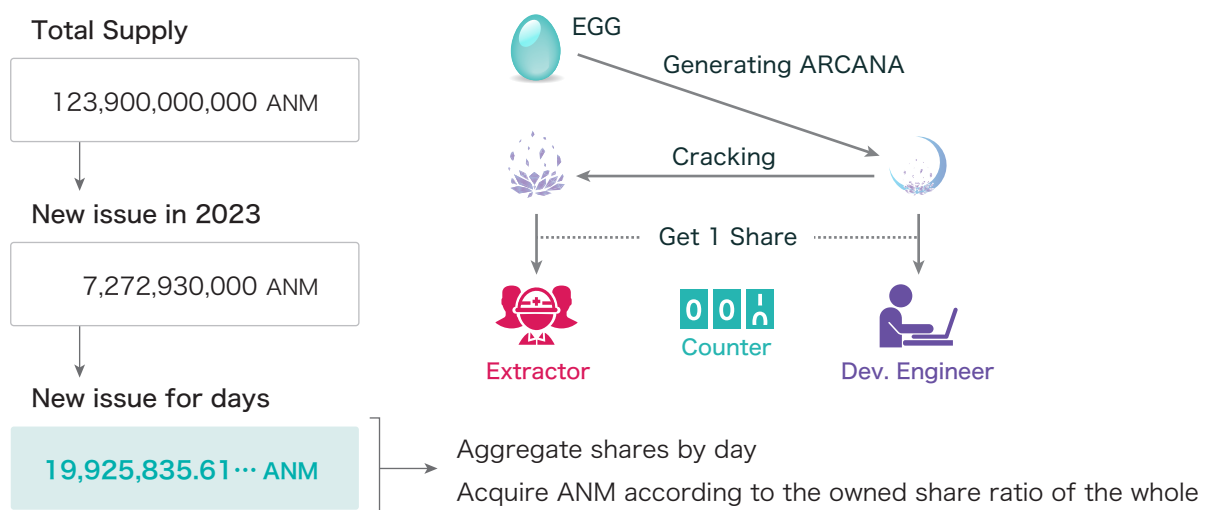
Private sale

LOA (Lock of ANIMA) is a staking element token that can be acquired by locking ANM. By locking (depositing to the system) 1,000 ANM, you can obtain 1 LOA. LOA is burned 180 days after issuance, and the locked ANM is redeemed for LOA holders. The generated ANM is equivalent to an annual interest of 24% per 1 LOA (120 ANM, at a rate of 20 ANM every 30 days) and is sent to the address of the LOA holder.

ANIMA generation logic

1. When ARCANA is generated from EGG, the development engineer gains 1 share.
2. When ARCANA is extracted, the Extractor gains 1 share.
3. When locking ANM with LOA (Lock of ANIMA), the LOA holder generates 120 ANM per 1 LOA over a period of 180 days.
4. The total amount of ANM generated per day is determined.
5. The amount of ANM minted is determined by the shares acquired by each individual during the day.

Figure 13 ANM Block Reward



BURN

ANIMA is burned at various set ratios when the following processings are performed.

When MATRIX is broadcast

When an EGG generation transaction is processed

When a PERSONA generated transaction is processed

When an Absorb transaction is processed

Reward

Reward for the engineer who developed MATRIX (ARCANA Birth bonus)

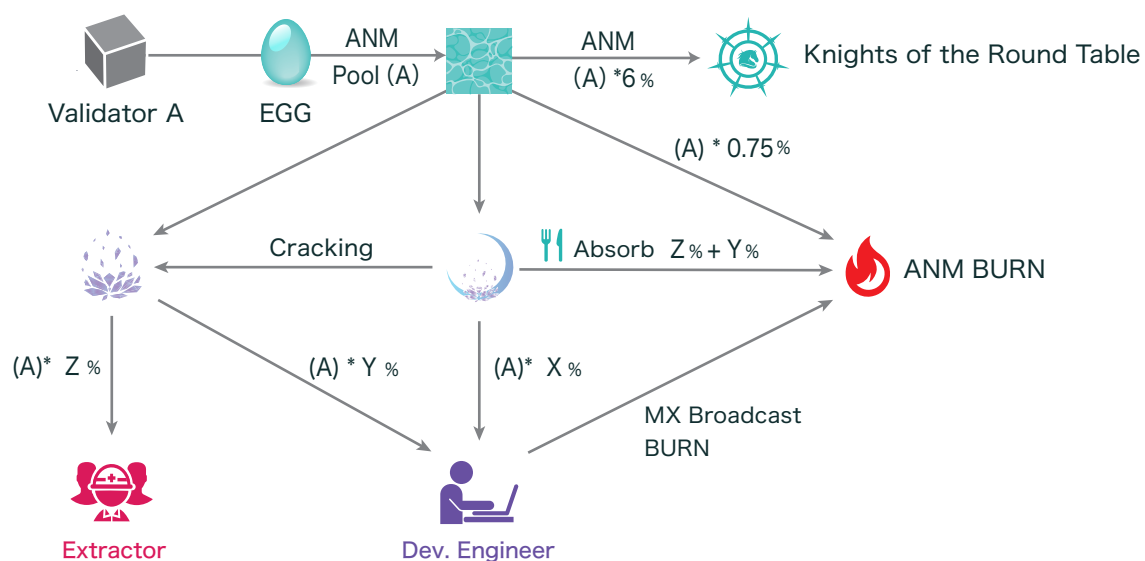
Reward for engineers who disassembled ARCANA (ARCANA Death bonus)

Rewards for the Knights of the Round Table (Queen & Knight)

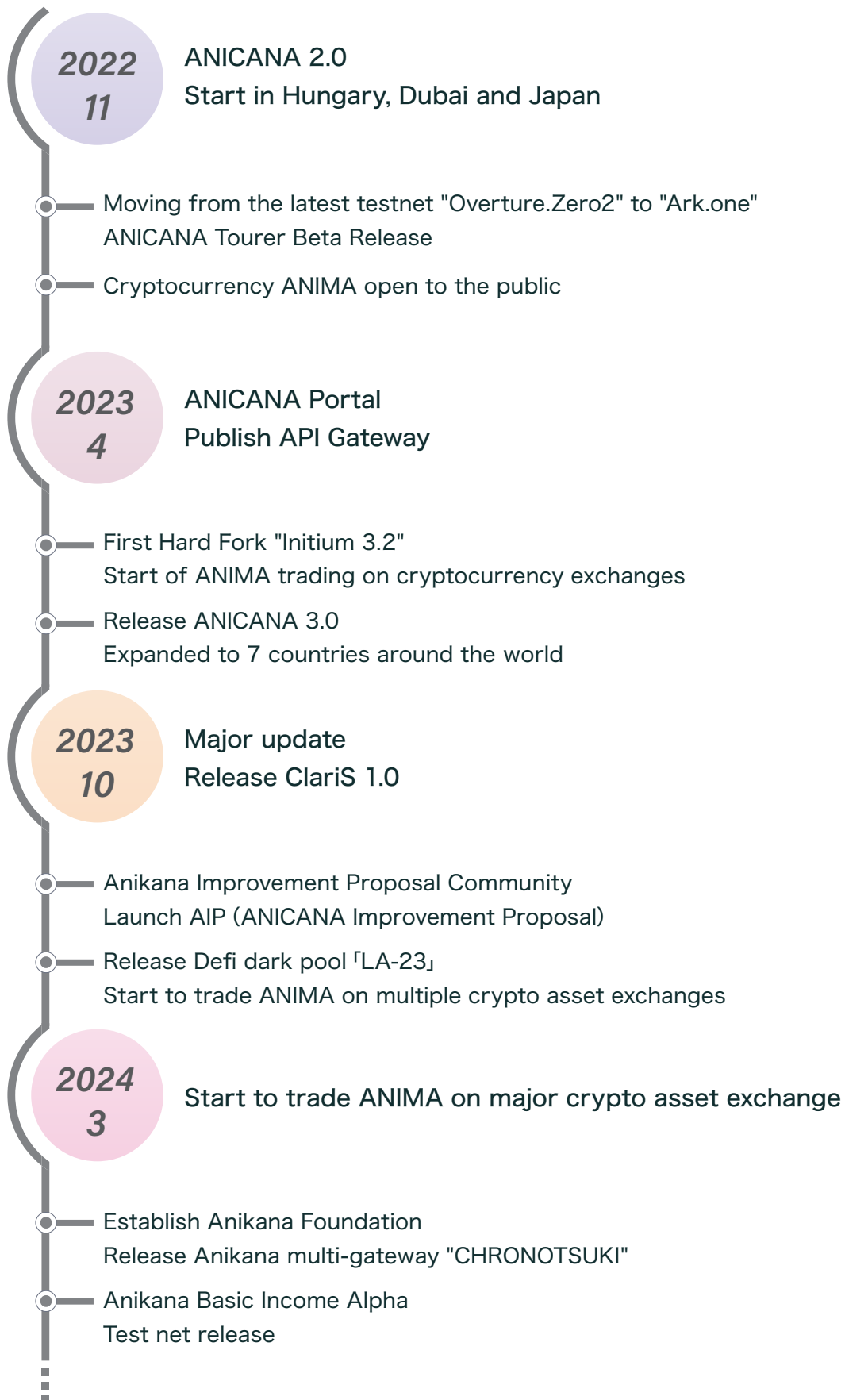
ANIMA circular logic

1. When MATRIX is broadcast, the given ANIMA is burned.
2. BURN of ANM is executed when the total number of issues is equal to or greater than the minimum number of issued ANMs.
3. At the time of EGG generation, Validator pools the specified number of ANMs defined in MATRIX to the ANM Pool (A).
4. Of the pooled ANMs, 0.75% will be BURNed and 6% is transferred to the Validator belonging to the Knights of the Round Table and the Queen.
5. During ARCANA creation, 22.25% (X) of ANM from ANM Pool (A) is transferred to the address of the development engineer.
6. During ARCANA disassembly, 50% (Z) to the Extractor and 21% (Y) to the development engineer are transferred from ANM Pool (A) to their respective addresses.
7. If ARCANA is absorbed by a PERSONA, the pooled ANM will be BURNed.

Figure 14 ANM Transaction Reward



9 Milestone



Thank you

We hope you will be satisfied
with our proposal.

ANICANA Project