



Apron Network

Decentralized Infrastructure Service Platform

A decentralized platform that provides infrastructure services for DApp developers, DApp users, and operators in the blockchain world.

The new gateway to the Web 3.0 world

Apron Structure

Apron is a parachain built on Polkadot by Substrate providing API services for Polkadot ecosystem and DApp and Defi of blockchain networks.



Obstacle & Solution



Apron Network

In order to solve the problems of infrastructure service discovery, Service Call and Service Billing in the infrastructure service of Web 3.0 world, Apron labs proposed Apron Network as a solution to improve the infrastructure service ecology of the Web 3.0 world.

Web 3.0 era makes it possible for developers, to provide and use any infrastructure services , which connects the real world to Web 3.0 world and returns freedom to everyone!

Obstacle & Solution

During the existing modes, each project focuses on its specific field in the existing methodologies. There is no commonly used technical solution connecting to each field. Both Infura and NOWnodes adopt a centralized approach to provide API services for Blockchain nodes or browsers. Api3 offers off-chain data on-chain aggregation service by using the way of submitting by Oracle to the data source provider. BitQuery and The Graph focus on the aggregation and indexing of data on the chain, which makes DAPP and offline applications can obtain the data on the chain. Both services are providing GraphQL API.

For infrastructure services, the type of infrastructure services are diverse. In terms of traditional infrastructure service, there are OCR (optical character recognition), SMS (short messaging service), SNS (simple notification service), VPN (virtual private network), etc. For the infrastructure services in the field of Blockchain, there are Blockchain node API services, Blockchain browser API services, Blockchain data aggregation, DAPP data aggregation, off-chain data aggregation on-chain, cross-chain data API services and so on. There are more service types waited to be exploded.

Summarizing the above service types, there are three critical parts of infrastructure services: Service Discovery, Service Call and Service Billing. These parts are very mature in the centralized IT infrastructure architecture, but they are controlled by operators, which causes the damage of choosing freely for infrastructure service providers and users. We can see how the centralized infrastructure service platforms are controlled by commercial companies such as AWS, Azure, AliCloud and Google Cloud control developers. In the decentralized Web 3.0 world, the situation becomes more complex, and these three critical parts are missing and imperfect.



Obstacle & Solution

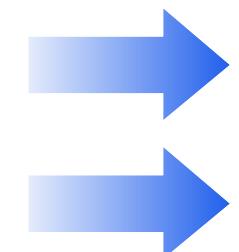
We want to build a decentralized infrastructure services platform based on Blockchain technology, similar to the service marketplaces in traditional cloud services such as AWS, Azure, Aliyun, OCR (Optical Character Recognition), SMS (Short Message Service), SNS (Simple Notification Service), VPN (Virtual Private Network), and Customer Verification services to provide a decentralized network of infrastructure services for application developers, application users, and infrastructure operators.

Enable infrastructure operators to offer their infrastructure services to the public on the Apron Network without having to incur significant maintenance costs and without having to invest in marketing and operations.

Enable application developers to quickly discover and use the various infrastructure services from the decentralized network on the Apron Network without having to invest a lot of effort and money in finding infrastructure service solutions.

Enable application users to use applications based on decentralized infrastructure services without worrying that the infrastructure services they are using will be unavailable in the event of a failure.

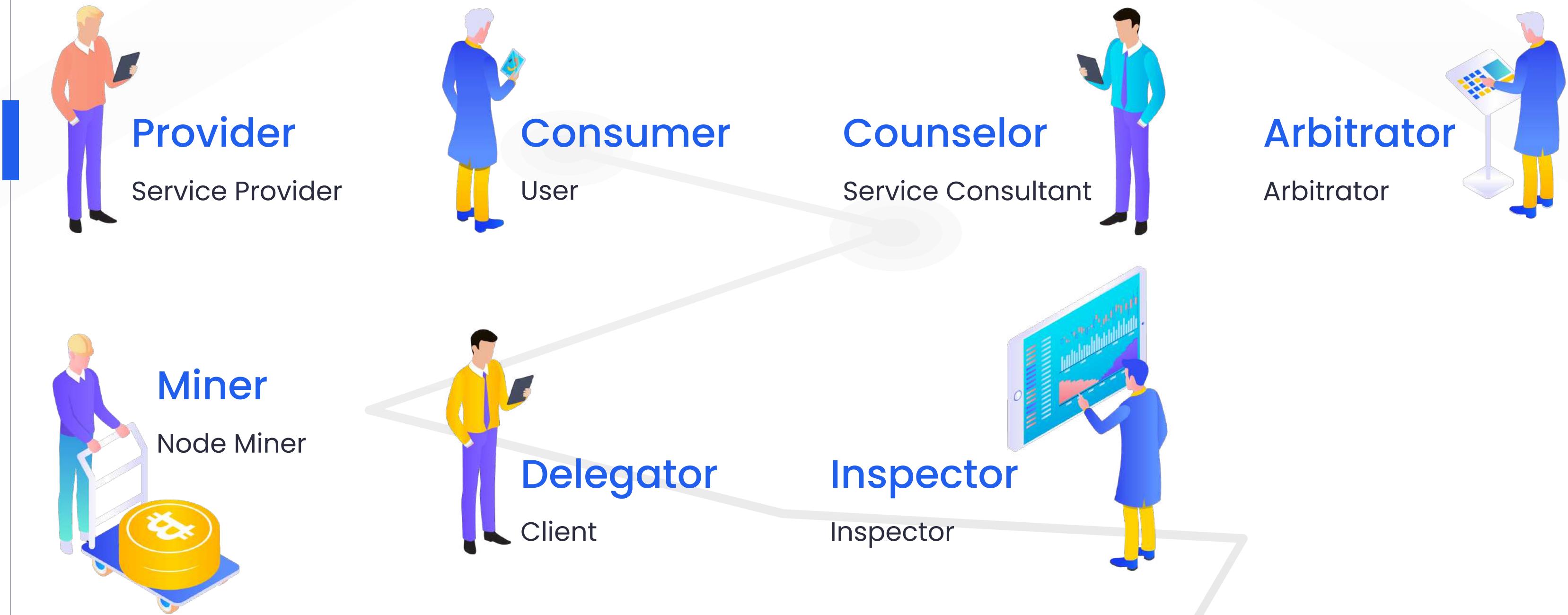
Allow all infrastructure service providers, application developers and infrastructure service users to work together safely and freely!



Infura, AWS Market Place, Azure Market Place, Aliyun Market Place

Overview In The System Design

Apron Network maintains the operation of Apron Network through different roles. Each role contributes their own capacities to provide better guarantee and support for network service.



Overview In The System Design

Apron Network is based on Substrate framework and can be a parallel chain of Kusama / Polkadot. The nodes running in Apron Network are divided into two types: Apron Pillar Node, Apron Node. On top of the nodes that can run, Apron DAO manages Apron Network. The entire Apron Network will be composed of Apron Pillar Node, Apron Node, Apron Service Marketplace and Apron SDK.

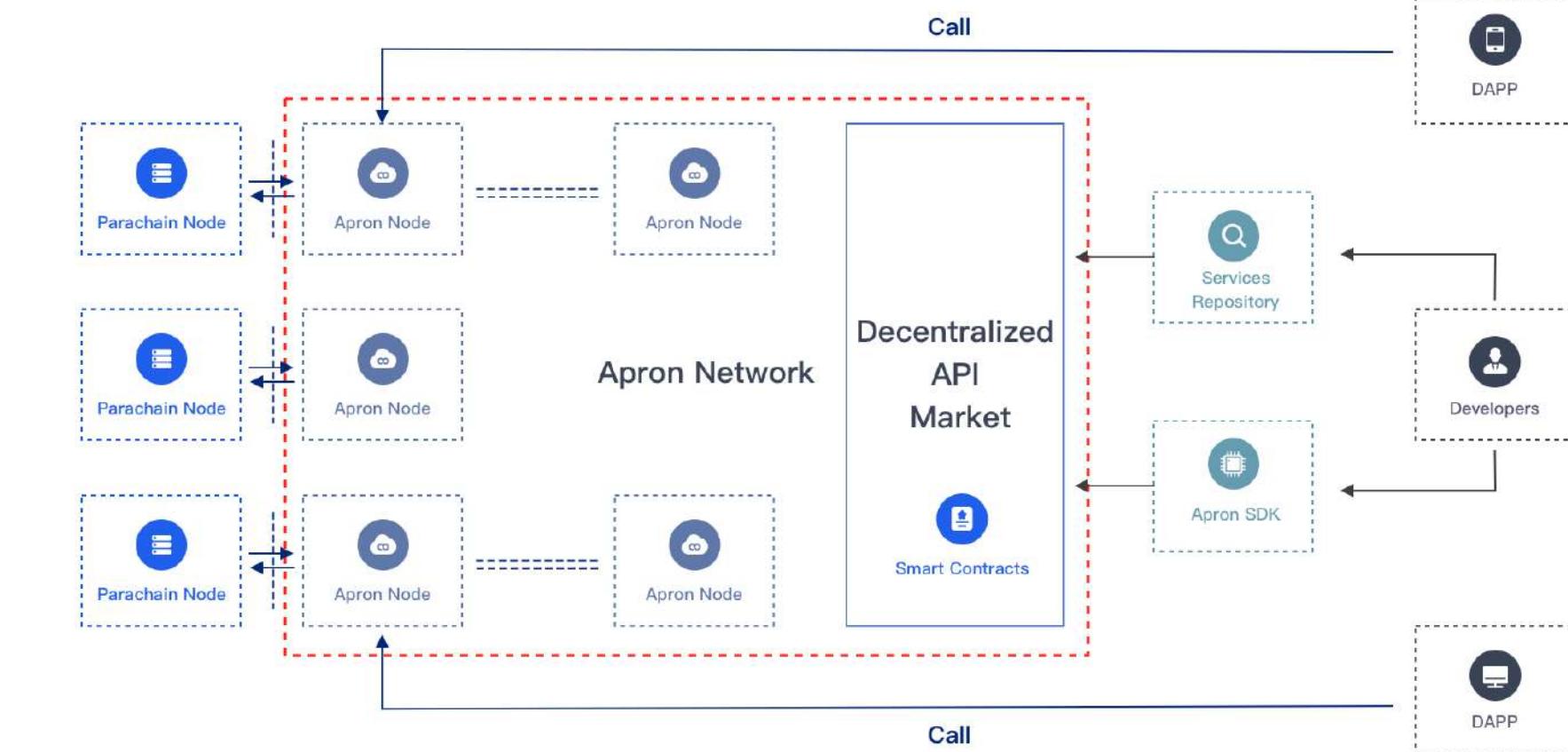


Overview

Apron Network provides a decentralized infrastructure service platform for service providers, node operators, and application developers through Apron Node, Apron Marketplace, and Apron SDK.

OCW (Off-chain Worker) capabilities provided by the Substrate framework enable the Apron Network to chain-govern any service usage. As shown in the figure, the Apron Network consists of three main components: the Apron Node, the Apron Market, and the Apron SDK.

The infrastructure service providers run Apron Node to provide services for users on the Apron Network through the Apron Market. Without any other changes to complete the migration of DAPP, DAPP developers only need to use the service directly or through the Apron SDK to provide users with a DAPP experience.





System Framework Logic

Apron Network component-Apron provide stabilize, reliable and secure node service for DApp, Defi and Web3 by new form of framework.

Apron Pillar Node

Apron pillar node is developed by substrate framework, which provides security guarantee for Apron Network and ensures the stable operation of the network. It is the basic network node of Apron Network. Apron pillar node will be initially launched by Apron labs and will be run by community participants.

Apron Node

Apron Node is the constituent node of the apron network, developed using the substrate framework, and has OCW features. The infrastructure service providers synchronize their infrastructure services through the apron node and synchronize their service usage and billing information chain through the OCW module. Any infrastructure service provider can provide its infrastructure services to the public through Apron Node. Whether it is a block link point operator or a provider of information technology services in the traditional Internet and other fields, all you need to do is to deploy the Apron Node in any network that can connect to the Internet and access your own infrastructure services, which are provided to the public. By adding the corresponding service information to the configuration, it allows the public to discover and use the infrastructure services, receiving service usage fees at the same time.

Apron SDK

In addition to directly migrating services from the original infrastructure service to the Apron Network, the services of Apron Network also provide the Apron SDK which maintains the dynamic balance of the link between the application and the Apron Node and the communication data encryption. All application developers need to do is to integrate Apron SDK in the application. It can not only be used on the Web but also be integrated on the PC and mobile terminals in a native way.

Apron Market

Based on the smart contract capabilities provided by Apron Node, Apron Market will use a series of contracts to match the supply of services with the demand for services. Apron Node will provide infrastructure services for Apron Market smart contracts via OCW and synchronize the infrastructure service usage data to the smart contracts, which will then bill the service usage. Apron Market is also a web-based service discovery platform that allows service users to find the infrastructure services they want to use on Apron Market and to publish their infrastructure requirements through Apron Market, matching demand and supply.

System Rule

Decentralized Market Scenarios

Decentralized infrastructures service build on Apron Network where is engaged in three parties: Infrastructure Service providers, DAPP developers, and Apron Network builders.



Infrastructure Service provider

Infrastructure Service providers have infrastructure service capabilities and need to channel those capabilities to the market for use by service requesters.



DAPP developers

DAPP developers are application developers, and at the present and future, the development of applications will depend on infrastructure services, while DAPP developers themselves do not have the capacity or capital to develop the corresponding infrastructure services, so DAPP developers need to find the infrastructure services they need.



Apron Network builder

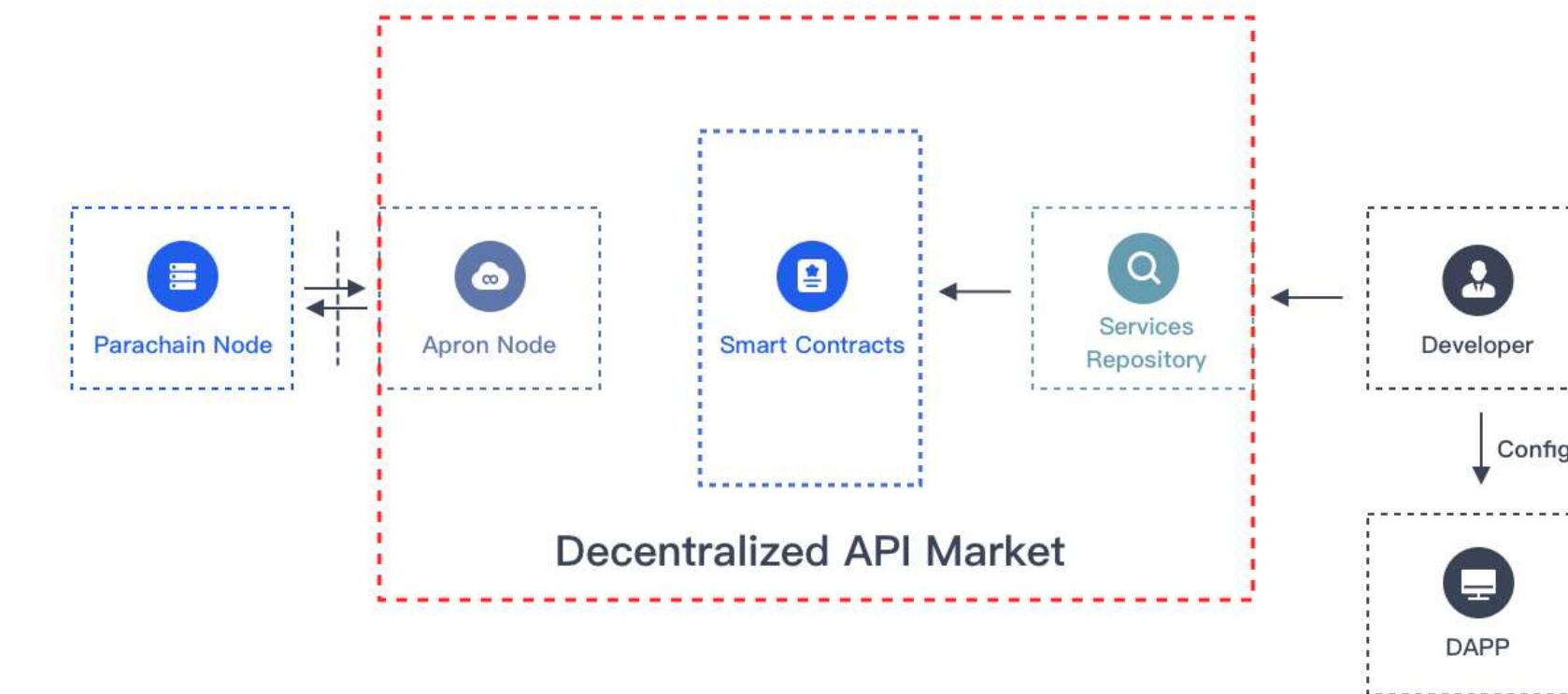
The Apron Network builder is primarily the operator of the Apron Node. In Apron Network, the identity of the infrastructure services provider and the Apron Network builder can overlap.

System Rule

Service On-Chain

Once Apron node is connected, infrastructure service providers is given to any amount of service information that it can be provided, include but not limit to: call mode, access address, cost description, permissions, etc.

Smart contracts will record all service-related information through the apron market, and shown by the market front page to all developers. Any information that called by infrastructure services will be uploaded through the apron node.

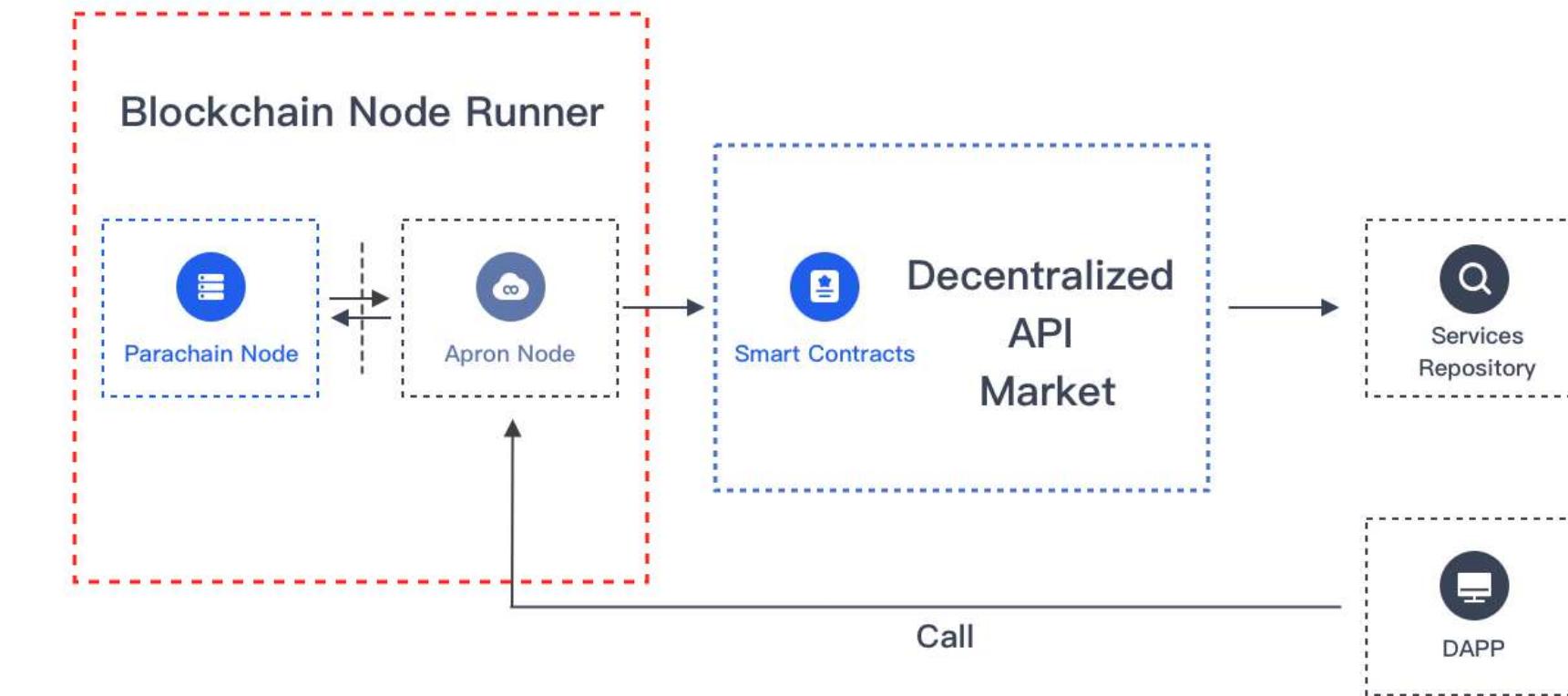


System Rule

Service Discovery

In the Apron Market, all infrastructure services are stored in smart contracts, and the Market front page presents the total information of the smart contracts to the service consumer through rules. Of course, service consumers can also search the market for a service or post a reward for service demand to find a service provider who can provide the service.

The Apron Network will provide users in the Apron Network with relevant service information by introducing the role of Network Service verifier to retrieve and check the status of infrastructure services in all markets, and for reference by the Dynamic equilibrium in the Apron SDK.



System Rule

Ranking rules

The ranking rules are introduced into the Apron service marketplace, and services are automatically evaluated from multiple dimensions by inspector and Counselor. The current frequency of calls is the most major measure. If the current service node is called too few or too many times, its weight will be affected. When the number of calls is too much, the system will reduce its display times and display ranking. We hope that each service node can maintain a reasonable frequency of calls. When the service is unavailable, the service is excluded from the leaderboard. The ranking list is only a way to recommend infrastructure services to DApp developers. It is convenient for DApp developers to quickly find the infrastructure services they need in the market, and will not take them off the shelves or ban any infrastructure services.

Reward and Punishment Mechanism

The inspector inspects the services in the network. When the infrastructure service provider or the infrastructure service user has malicious behavior, the inspector will automatically request the punishment measures to DAO, and the members of the DAO will judge the behavior and implement the punishment measures. If the penalty arbitration initiated by the inspector is determined to be tenable by the decentralized arbitration court, the inspector will be able to obtain a part of the fine as a reward. When the infrastructure service provider finds that there are users using the service maliciously, the DAO can be asked to judge the behavior. When service users find that there is a problem with the service, they can also appeal to DAO.

DAO

The governance of the Apron Network will be implemented in the form of a Dao. Boost Peers in the Apron Network will initially be run by Apron Labs and will be delivered to the community through community governance.

Token Usage And Value

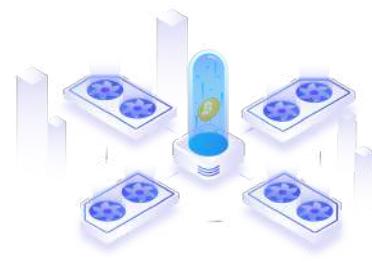
Apron Network adopts a user-oriented business model, so there is no need for separate miners for block packaging, and service nodes are required to generate APN rewards from the actual services performance. Service nodes are both the main contributors and the main beneficiaries of the system, and the APN holder reward algorithm has a difficulty adjustment as well as single and total reward decay mechanisms that are designed to incentivize real usage and maintain the long-term stability of the system, circumventing a crude economic model. In order to attract more third-party users' interest in APN and anchor the intrinsic value of APN, we charge a certain commission and service fee for each business, which varies from business to business, and after the fee is aggregated, it will be destroyed to ensure the stability of APN's value.

Service Guarantee



Apron Network needs Apron pillar node and Apron Node to maintain network stability. For the Apron pillar node and Apron Node, APN is the asset that the node needs to stake to provide services. When the service node does evil or the service has problems, the security fund will be confiscated according to the arbitration situation. Service nodes will also receive corresponding rewards according to the pledge proportion and service duration.

Service Usage



Developers need to pay a certain service fee for their applications in the Apron service marketplace to use the services in the market.

Governance

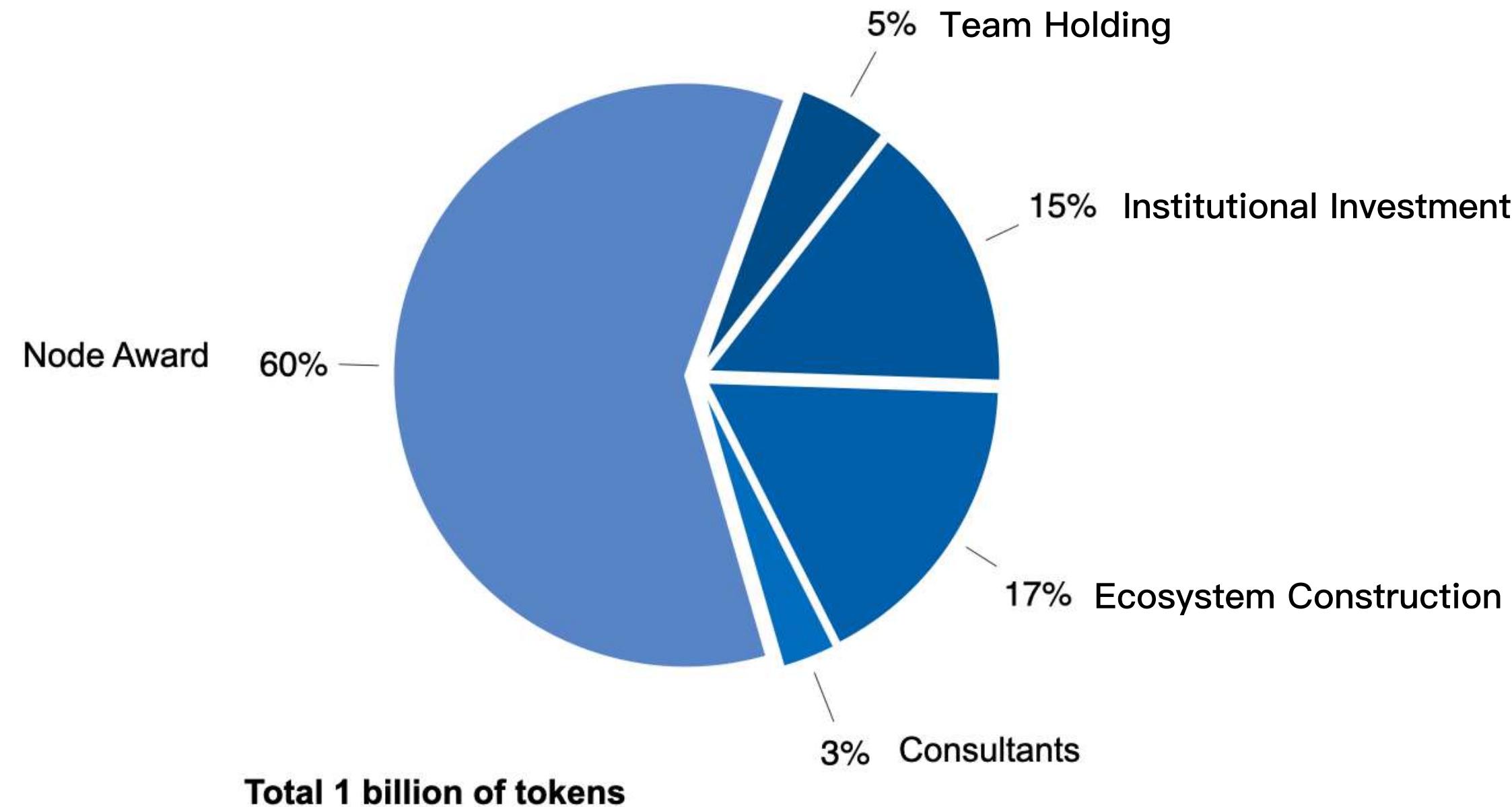


APN Owners can participate in community governance on the Apron Network by voting for protocol upgrades, community governance, and more.

Token Distribution

Total circulation of APN: 1 billion

60% of tokens will be released to users who contribute to API service market by node.



Application Scenarios

Apron linked all blockchain network node, provide API infrastructure service toward the blockchain world.



Road Map

1 2021.Q1

Complete the Web3 Open Grants application Complete the Apron Network White Paper Establish the foundation of Apron Network Release ERC20 token and complete private placement Complete the development of POC version

2 2021.Q2

Release Apron Network Beta 1.0 version Provide node services for Ethereum Provide node services for Polkadot Release Apron market

3 2021.Q3

Connect to multi-public blockchain node service Release the ApronSDK Start public BETA

4 2021.Q4

Release the Apron Network Start to build DAO Connect more traditional infrastructure service for Apron Network Hand over Apron Network

Project Team



Yifei Zhang
CEO

PhD in Information Security, Harbin Institute of Technology, China. Earlier, Yifei gained his Master's Degree in Computing at Unitec Institute of Technology, Auckland. As a fanatic follower of blockchain technology, Yifei has a wealth of experience in Ethereum & Eos technological development and led many blockchain projects successfully.



Sean
CMO

Sean holds a PhD from Florida International University and has been working in the digital world. Has many years of rich experience in marketing. As a big fan of blockchain, he has been active in various frontier communities and has many years of experience in researching digital currency.



Jim Clancy
CTO

Jim graduated from American Inter-Continental University. On top of an experienced technical manager with a demonstrated history of working in the computer and network security industry, he is skilled at Data Centers, corporate services, and production, customer facing infrastructures globally.



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