

SEA Maritime IoT Block Chain

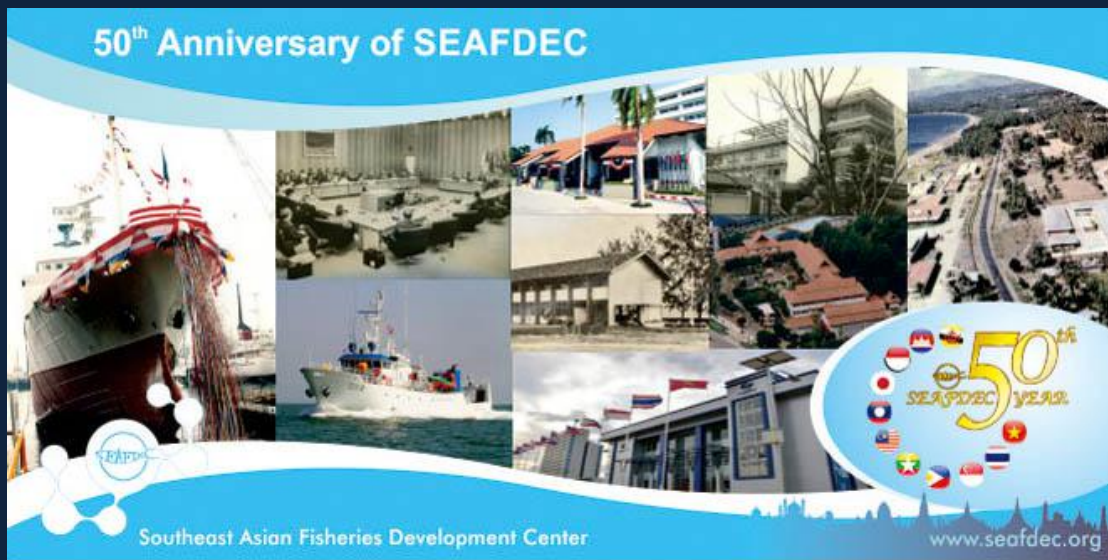


Poseidon Chain

White Paper

Poseidon Chain Team

Abstract



Poseidon Chain has constructed a new generation of IoT architecture and established whole-process solutions (maritime data acquisition, storage, sharing and application) centering on the scalability, security and real-Time problems in the application of block chain technology in IoT and combining with block chain, IoT, distributed encryption storage and calculation.

Poseidon Chain has deeply integrated block chain technology and IoT technology, achieved a decentralized and trusted maritime trade system, reduced system interconnection costs, and improved data development sharing value on the premise of protection of user privacy and system security.

Poseidon Chain focuses on data transaction involving multiple parties and artificial intelligence decision-making scenarios based on IoT and big data. It has established multi-party trust and achieved the interconnection of isomerous data, solving pain points in maritime application. It is designed to spearhead a new generation of innovative business model sharing IoT data based on the Poseidon Chain platform.

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Background

■ Origins ■

In 2011, Poseidon Chain derived from "e-Navigation", a new concept of ship proposed by IMO (International Maritime Organization), which is used to collect, digitally summarize and display maritime information to enhance the sailing capacity of ships to the berth and enhance maritime services and security capabilities. In order to gradually change the concept from abstract to concrete, a new technique called Poseidon Chain evolved.

Poseidon Chain was applied in automatic identification of ship and extended to navigation mark management, navigation environment monitoring and other maritime fields. After several rounds of underlying upgrades in the past six years, IoT system implemented in decentralized intelligent contract has been realized.

MARITIME INDUSTRY

Poseidon Chain looked at the current problems faced in the maritime industry.

COMMUNICATION

- ❖ Huge costs in communication
- ❖ Accuracy of data
- ❖ Speed of communication and data reporting
- ❖ Possible bottlenecks and data leakages
- ❖ Long wait times for transmission

TRANSACTION PROCESSING

- ❖ Supply and demand of vessels
- ❖ Tracking of commercial transactions
- ❖ Sales and Purchases of Goods / Services
- ❖ Slow transactions / contract deployment
- ❖ Large operational costs
- ❖ Staff / Labour cost blowouts
- ❖ Dock Loading and management
- ❖ Waste management / over runs

ENVIRONMENTAL IMPACT

- ❖ Monitoring environmental impact on sea creatures
- ❖ Monitoring / collecting data relating to ocean health
- ❖ Wastage / Overruns of edible sea fish
- ❖ Deployment on a needs only basis of vessels
- ❖ More wastage

COSTS OF DELIVERING

- ❖ Larger costs of delivering fresh products
- ❖ Shipping maintenance
- ❖ Deployment of maintenance vessels and staff
- ❖ Monitoring and tracking vessel health

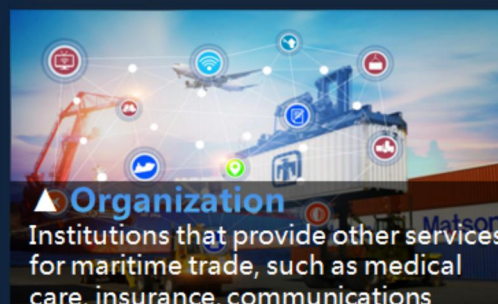
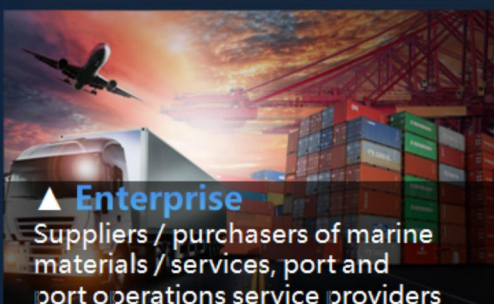
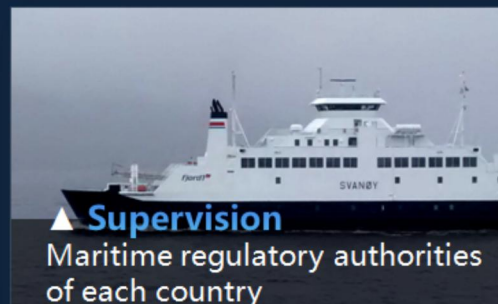
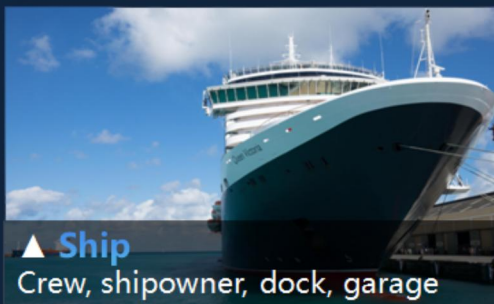
HEALTH & SAFETY

- ❖ Cost of end to end transactions
- ❖ Low cash flow volatility
- ❖ Recruitment of qualified staff
- ❖ Training and deployment
- ❖ Inefficient HR and Administration of maritime related activity

INSURANCE

- ❖ Higher insurance premiums
- ❖ Higher transaction fees and costs
- ❖ Volatile unstable market prices
- ❖ Lower profit margins due to higher costs
- ❖ Changing sea conditions vs performance

■ Ecological Role of Maritime Trade ■



■ Market ■

3.5 million civilian vessels in the Asia-Pacific region, including 3.436 million offshore vessels and 64,000 ocean going vessels. More than 20 million maritime personnel place huge demands on clothing, food, housing, travel, shopping, and entertainment. A variety of application systems which provide services for maritime personnel, enterprises and governments have been generated, which cover ocean communications, information services, e-commerce, financial services, life and entertainment, first-aid, insurance and financing, government regulation, etc.

■ Foundation ■

IoT (Internet of Things) is the third wave in the field of information after the computer and Internet, which integrates the advanced machine communication (M2M) technology, sensor technology and intelligent processing technology, establishes a set of global dynamic network infrastructure. All objects in the world, from refrigerators to tires, from buildings to paper towels, can transmit and share information and data through the Internet of things; realizing the functions of overall perception, reliable transmission and intelligent processing.

BT (Block chain technology), also known as distributed accounting technology, is the next generation of subversive core technology after the steam engine, electric power and Internet. If steam engines relieve manpower, electricity solves people's basic living needs, and the Internet radically changes the way information is transmitted, then the block chain acts as a machine for building trust. It will be

possible to radically change the way in which the value of civilization is transmitted.

Block chain is the soul of a logistics network and the logistics network is the trunk of block chain. The combination of these two epoch-making software and hardware technologies has revolutionary advantages:

1. Reduce Interconnection Costs

The core concept of block chain technology is the distributed account book, which is an open and multi-party-maintenance distributed database. The basic IoT data platform constructed based on block chain may effectively solve the problem of "data island" and reduce the equipment interconnection costs and IT system maintenance costs. The decentralized IoT system based on block chain technology can carry tens of billions of interconnected equipment data.

2. Protect Data Privacy

The biggest advantage of block chain technology lies in the privacy security of decentralization. The block chain has reduced the risks of hacker attacks and malicious leakage without the user data controlled by the third party or storing massive data in one data center. IoT built with block chain is a participatory, fully open and secured decentralization system. All users can control their own data, protect their privacy and rights.

3. Realize Value Transfer

IoT system based on block chain is a peer-to-peer decentralization network. All participants can equally participate in the data sharing process. All users can access to

the data they have generated. The data application and service provider can obtain a large amount of valuable user data legally at low cost, and create more intelligent service on this basis, and realize the value transmission through the real-time flow of data.

4. A combination of smart IoT, blockchain network technology and smart wallet integration may enable the maritime industry to perform faster, safer transactions while never compromising its data. Poseidon Chain's implementation of the smart wallet allows each vessel to act as its own maritime data warehouse and bank. Then using IoT technology, certain data can be communicated, transacted far more efficiently.

From identification right through to settlement between mainland, sea and individual vessels, Poseidon chain's SuperWifi allows this to happen seamlessly without the burden on GPS and satellite communication.

Overview of Poseidon Chain

In the huge maritime trade market, each application system focuses on fund circulation and settlement. Cross-regional production, circulation and trading require a trusted, credible, stable, and efficient trading platform channel. Poseidon Chain is a 3D system focusing on maritime trade, alliance chain oriented to each role in maritime economic ecology and weakly centralized circulation economy system.

Poseidon Chain focuses on four key technologies (Distributed Cloud Storage, Data Security Encryption Calculation, Block Chain Technology, Large-scale Distributed Network Consensus Protocol) and overcomes the bottlenecks of existing maritime trade systems.



1. Combining with block chain technology, construct the decentralization system, ensure that the data on the chain is permanently valid and untampered, provide verification and traceability for maritime trade applications.

2. Overcome the scalability problem of existing block chain system data storage combining the encryption technology with Distributed Hash Table (DHT) technology.

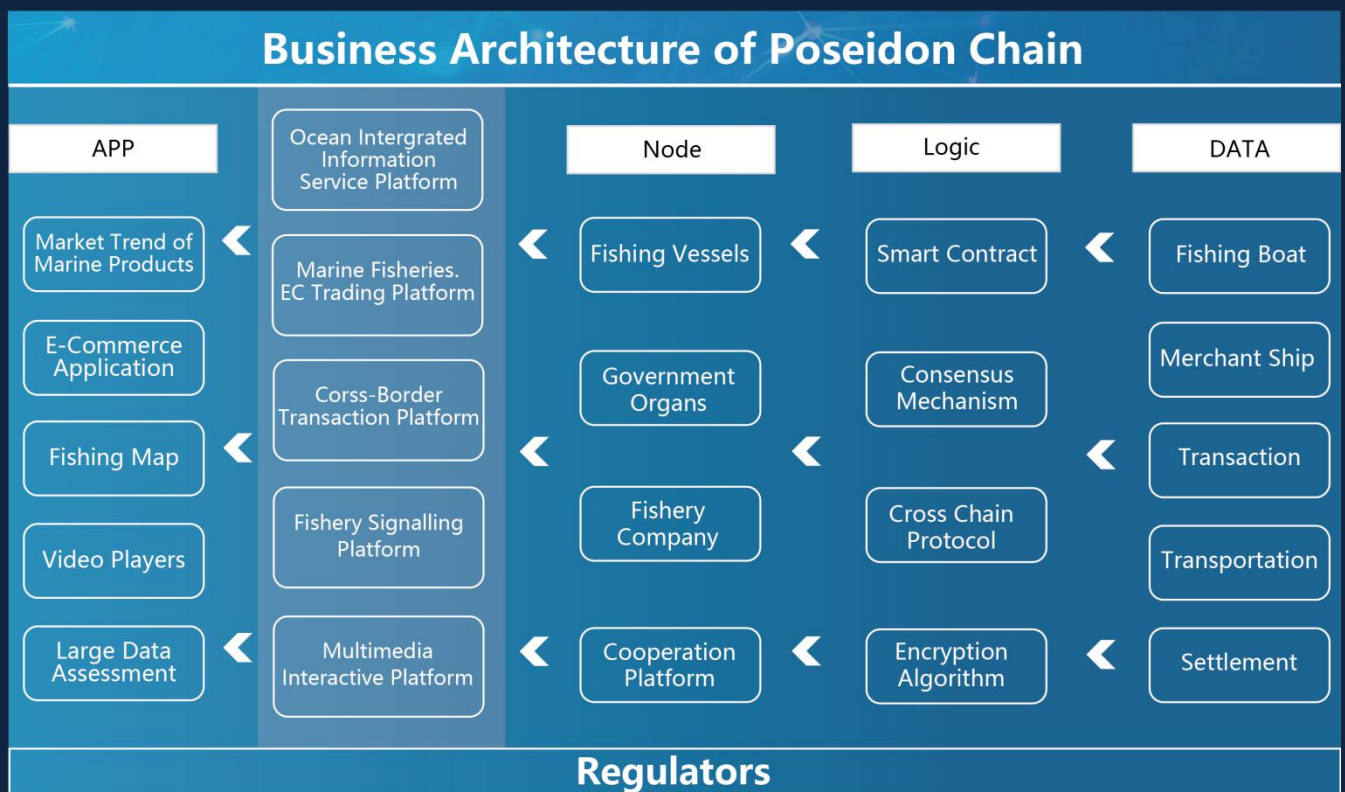
3. Design efficient distributed consensus protocols, encourage users to participate in the network and promote the participation of all parties to the node for win-win cooperation.

4. Protect the operation of the system with re-encryption technology and homomorphic encryption technology, continue to protect user privacy data and enhance user confidence.

■ Function of Poseidon Chain ■



Business Architecture of Poseidon Chain



Subversiveness of Poseidon Chain

■ Role Relationship Reform ■

Weak centralization model, interactive model which simplifies each role in the maritime field.

■ Transaction Circulation Model Reform ■

It has greatly improved the flow efficiency of the product and the value, transformed the current maritime trade circulation mode, greatly reduced the capital flow risk of the practitioners;

■ Establishment of Credit System ■

To build a credit information system based on the behavior of the high seas, provide sufficient credit basis for both supply and demand, establish a complete data base for the circulation of maritime transactions, carry out credit ratings for all kinds of subjects, and authorize the amount of credit.

Examples of Typical Application Scenarios

■ Management of Ship Life Cycles ■

When a modern ship leaves the shipyard, it sail around the world. During a life cycle of several decades, the key system of a ship and its after-sale service itself are difficult and complicated. If the key equipment on board the ship is handled

intelligently according to Poseidon Chain IoT system, the onshore operation and maintenance manager can monitor the whole ship or key equipment in real time and realize on-line management. Furthermore, efficient supply chain management can be realized through the cooperation of the Poseidon Chain system. In coordination with international maritime conventions on ship technology and ship management, propose new requirements based on information technology, improve the safety, economy and management efficiency of shipping.

■ Precision Customization Insurance ■

The degree of customization of maritime insurance is very low. Because of the lack of data support, insurance companies can only consider the risks and benefits of different maritime roles (ship, crew, etc.), and cannot achieve the best balance. Poseidon Chain has collected massive data to analyze the data of each ship and employee. Poseidon Chain can better evaluate the risks. The insurance company can precisely calculate the risk probability with these results and customize humanized insurance. After combining with the Poseidon Chain data platform, the insurance company can automatically enter a claim settlement after the occurrence of an accident through block chain intelligent contract, and save a lot of time and manpower.

■ Ocean Encryption Communication ■

Consumption of offshore fishing vessels in marine communication pilots: The annual satellite communication cost of every offshore ship and ocean-going ship is

between USD 1600 and 7000. It is anticipated that the satellite communication market capacity for offshore fishing vessels in ASIA-PACIFIC region will reach USD 5.5 billion and for deep-sea fishing will reach USD 450 million. Poseidon Chain network has a 30 nautical mile wireless transmission capability, which has constructed data transmission network under complex climate and sea conditions and greatly reduced ocean communication costs through block chain encryption algorithms and node consensus mechanisms.

■ Unmanned Fleet ■

A large number of IT products are used on board, including Global Positioning System (GPS), ARPA radar, Automatic Identification System (AIS), Electronic Chart Display and Information System (ECDIS), integrated engine room, etc. Therefore, with the development of ship electrification to multi-function integrated system which integrates engine room automation, navigation automation, mechanical automation, loading automation, the traditional electromechanical control mode has been gradually replaced by intelligent, networked and digital control methods. It is possible to combine the data transmission network and platform monitoring network through Poseidon Chain.

Combined with the real-time sharing of Poseidon Chain side chain data, the historical data of each ship (including key information such as motion, position, sea conditions, etc.) can be obtained and shared in real time, so that the ship can obtain real-time status information of the cluster members at a lower cost and reduce the

communication cost and computing cost of the unmanned fleet cluster control; The real-time, reliable and complete state information of the unmanned fleet further promotes the optimization of cluster control algorithm. Combined with the real-time sharing of Poseidon Chain side chain data, the system has increased the system flexibility, adjusted the action of cluster members (increase of cluster ships, removal of ships), completed the real-time reconfiguration of cluster members, and improved the autonomy of unmanned fleets and the ability of security control in a confrontational environment.

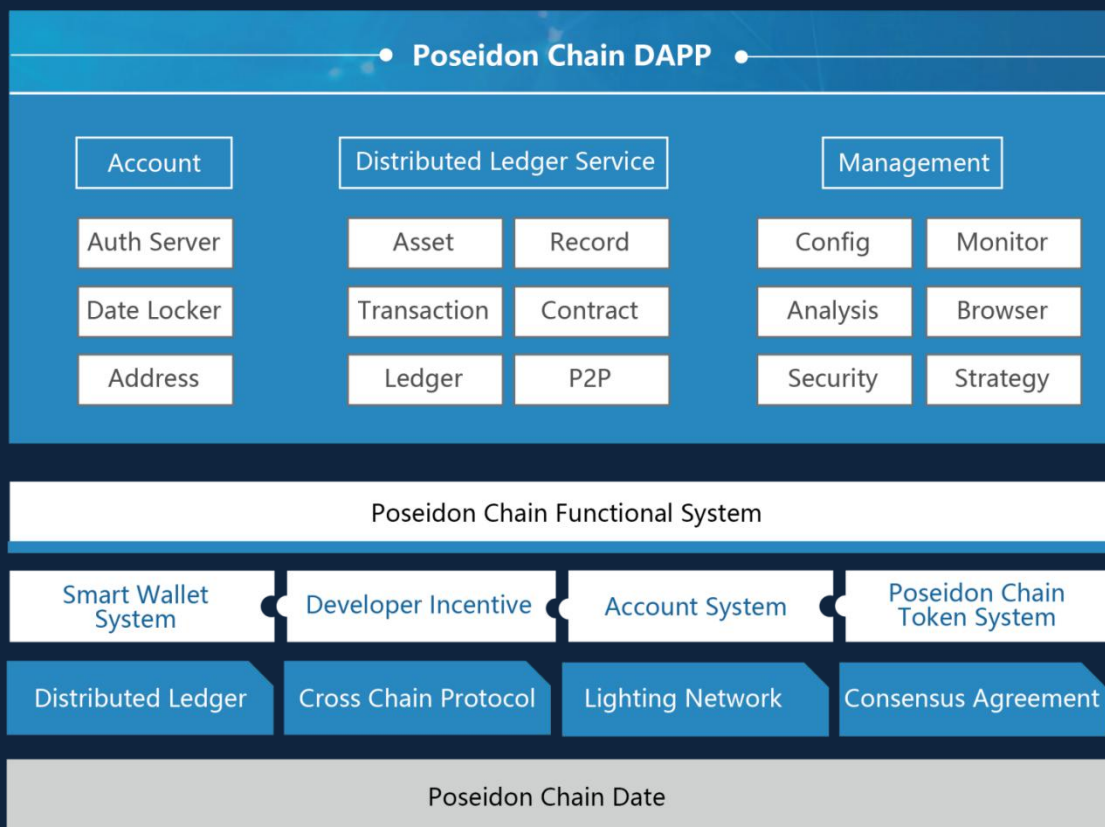
Key Technology of Poseidon Chain

Poseidon Chain is a new generation of distributed infrastructure for IoT, which is designed to rebuild the basic architecture of IoT combining with the distributed storage, data encryption calculation and block chain technology, construct a basic data platform facing the IoT system, provide full-course solutions from data acquisition, storage, sharing to application, addressed a series of challenges in the existing "chimney" systems of IoT, reduce the equipment interconnection costs, effectively protect the data privacy and maximize IoT data value.

Technical Architecture

Poseidon Chain technical architecture follows the design specification and standard of alliance chain. On the premise of guaranteeing high performance and stability, Poseidon Chain has extended the technical boundary according to its own

characteristics, and conducted a series of self-transformation and development for the typical maritime application scenarios of Poseidon Chain. Consider that the actual application scenarios of Poseidon Chain may include many different countries, businesses, transactions, and even different communication protocols, there will be very complicated data interaction in the process of landing and actual use. Therefore, in the underlying design, we will ensure the compatibility and maneuverability of the network through the flexible configuration of module pluggable and intelligent contract. At the compatibility level, it will support the multi-protocol feature and be compatible with BIP protocol and POS intelligent contract platform. Different protocols are compatible, including consensus mechanism, authority management, account management, data structure, etc.



The parallel distributed architecture which separates the data layer from the control layer by Poseidon Chain can greatly improve the transaction speed and system extensibility without changing the block capacity. But there are new challenges. For example: After separating the data layer from the control layer, it is necessary to build a distributed storage network and ensure efficient interaction with the block chain. Effective connectivity must be established between two parallel architectures while ensuring the security and efficiency of the system; In addition, the independence of the data layer compromises protection of the block chain itself for data privacy. A privacy protection scheme based on encryption Technology must be designed. Encryption functions based on re-encryption or homomorphic encryption technology have certain requirements for computing resources. The block chain itself has limited computing resources and high costs, and a balance must be struck between privacy and availability; In a large P2P network, due to the large scale of nodes and the heterogeneity of data, there are great challenges to ensure the consistency in the process of implementing node state synchronization and data security storage. The block chain distributed network based on POW consensus protocol has some problems such as expansibility, waste of computing power and limited block speed. Poseidon Chain system adopts the two-layer consensus protocol solution, designs the dynamic committee security election mechanism, solves the system's low throughput and high delay problem, enhances the data consistency and security. In addition, facing the characteristics in IoT industry, Poseidon Chain provides the industry-oriented side

chain network function expansion as for the diverse application scenarios with the cross-chain architecture and based on Poseidon Chain main chain. The main chain network is mainly used in the high-speed control channel for IoT data interaction.

Parallel Distributed Encryption Storage and Calculation

Poseidon Chain adopts parallel distributed Architecture. To ensure the safe, reliable and efficient sharing of data in the network, Poseidon Chain creatively combines distributed storage technology with re-encryption technology and homomorphic encryption technology to realize an efficient data access control mechanism. The following are elaborated from two aspects.

■ Distributed Encryption Storage Based on DHT ■

Distributed storage system of IoT separates the data layer from control layer. All the original data is encrypted locally and signed by the owner. The original data is stored in a distributed hash table and in different nodes, but the host cannot know the original data. At the same time, the hash value of the data is stored in the block chain as the proof of the integrity and correctness of the data and the identification of the data. In the first stage of Poseidon Chain, ETH is chosen as the block chain platform to accelerate the prototype development and application test landing.

Block chain also controls the access to data. When the owner of the data stores it, the block chain stores access rights for each data record, which can be accomplished by sending a transaction containing the data identifier. When the user wants to take out

the data, he must provide proof to satisfy the identification of the data to obtain the right of access and the right to use the data. If a malicious node exists in the system, it may ignore access rights. But the data is encrypted, and in DHT, each node holds only a random portion of the data. Therefore, the impact of malicious nodes is limited. Since all data is encrypted on the user side, all data-based authorization and services will face challenges. The traditional distributed hash table holds only the key-value of data. This is not enough for the Poseidon Chain platform. Therefore, on the data layer, Poseidon Chain needs to record the corresponding relation between the secret key and data block with the amended DHT by combination with the secret key used on the data encryption calculation layer.

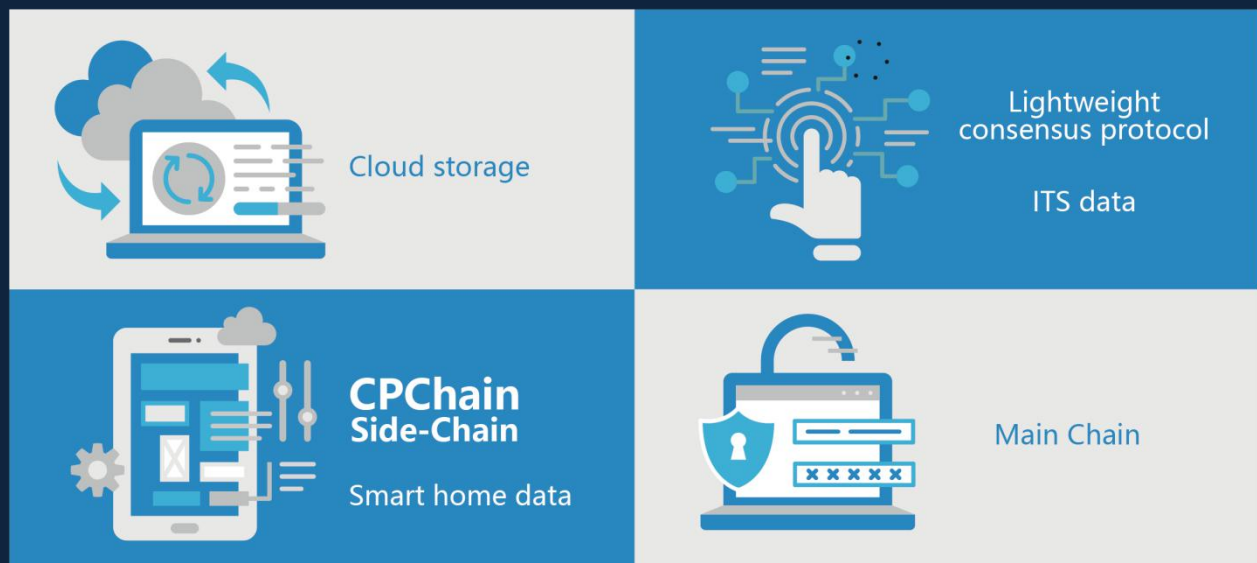
Certain calculating resources would be consumed for the encryption and decryption of data. In the face of the huge data volume generated by the IoT system all the time, undoubtedly, it is huge waste of calculation force resource for the separate encryption of each data record. Therefore, the suitable data structure and encryption mechanism are designed for the IoT data in different types in order to meet the demand of data safety and processing efficiency at the same time. Poseidon Chain platform will arrange the data generated in accordance with the time sequence, set up the time period T with the chain structure at the same time, package the data within one cycle into block, and select the encryption section E and uploading section U on such basis so that one block chain record could guarantee the integrity and authenticity of data in U data block of the whole section.

■ Data Sharing and Service Based on the Encryption Calculation ■

Poseidon Chain platform strips the data layer from the block chain. To guarantee the safety and privacy of data, all original data could be encrypted on the user side. It is a huge technological challenge to process, calculate or share the enciphered data, and the public key encryption system adopted by the block chain platform will not be suitable after the distributed storage is introduced, because the public key encryption technology needs to apply the public key of the receiver for the data encryption, while in the Poseidon Chain platform, each data is owned by the user, the user could share, visit and authorize the data freely, and there would be many authorities against different service providers in most cases. Therefore, Poseidon Chain platform will deeply research and develop the re-encryption and homomorphic encryption technology and deeply combine the encryption technique and the block chain technology to achieve safer and more efficient data sharing and service. Meanwhile, Poseidon Chain builds one set of combination scheme of symmetrical encryption and asymmetric encryption based on the re-encryption technology, the user applies the symmetrical encryption secret key upon the encryption in each encryption area, namely encryption and decryption apply the same secret key, and each encryption area applies different secret keys to record the corresponding relation between the enciphered data block and secret key in the improved DHT. The re-encryption system based on the asymmetric encryption is used to transmit the secret key used by the enciphered data, which could guarantee that data authority is limited in a single enciphered section.

The re-encryption technology could solve part of data sharing problem under the parallel distributed architecture, but the data is visible under the intelligent agreement, therefore a certain safety privacy problem is confronted. Therefore, Poseidon Chain will introduce the homomorphic encryption technology to achieve the calculation and service function of the enciphered data, such as matching and search of distributed encryption, and enhancement of protection on user's privacy. The homomorphic encryption guarantees the original data of users are invisible to the service provider, while the block chain segregates the users' identity information and data.

Hybrid Consensus Protocol for Large-Scale Public Chain



In the large-scale IoT information link system, due to huge network scale, IoT data volume and other features, many challenges are confronted to achieve the node state consistency and data distributed storage. Poseidon Chain system will research and develop the mixed consensus agreement with the extensible performance and propose the election mechanism of Dynamic Committee to overcome original

scalability problem of system based on the POW consensus agreement. The leading core problems in backbone structure is to decide which node is used to collect the data and conduct the packaging chain of block, and how to guarantee safety and consistency of block data. Traditional distributed fault-tolerant algorithms, such as PBFT, Zyzzyva, etc., guarantee the consistency among nodes based on more communication-bounded performance, for example, the PBFT algorithm applies the three-phase protocol to ensure the system consistency even if the vicious Byzantine nodes exist and the node failure downtime recovers; However, the algorithm security is guaranteed due to more dependence of communication method, which causes worse expandability of system. When the node quantity increases, its performance descends more quickly. When the node quantity exceeds a certain threshold value, the system will not be available. Since the small-scale reliability and availability are stronger, so the traditional Byzantine fault-tolerant algorithm will be more suitable for the private chain and league chain environment. Aiming at such problem, the core solution of Poseidon Chain system is the safety election mechanism of dynamic design committee in order to elect a credible commission which completes collecting the block data and the packaging chain task of the block.

■ Double-Deck Consensus ■

Since a traditional Byzantine fault-tolerant algorithm couldn't be applicable to the scene with large-scale public chain, while the huge consumption of calculation force resource from POW of block chain and other consensus agreements causes in low efficiency, so Poseidon Chain raises double-deck consensus agreement based on the committee to promote the consensus efficiency of Poseidon Chain backbone.

Regarding the first round of the consensus, the system calculates one local election algorithm to when the fixed round starts (one block added is referred to as one round) in order to decide the node's level in such round. In case the calculation result is senior, such node owns the right to record the account.

Regarding the second round of the system, the packaging, verification and entire network broadcasting are completed mainly.

■ Committee Dynamic Election Based on Reputation Evaluation Model ■

The main difficulties in achieving a Poseidon Chain backbone consensus agreement are: To make the whole network recognize the committee node in the P2P network; Mutual identification of identity after the establishment of committee; to guarantee the node level information is unforgeable. Regarding the above problems, Poseidon Chain system applies the node credibility model to evaluate the node credibility, thus electing the dynamic committee. Then conduct a consensus within the group through the dynamic committee, thus achieving the collection, packaging and co-chain of block data.

During the election process, increase the lucky value of probability which is the probability value evenly distributed, increase the randomness in the election process to prevent the malicious node from the pointed cumulative credibility attack in order to control the whole network. The random enhancement makes the part nodes with lower credibility possibly participate in the packaging and verification of block, which increases the incentive methods to part of the negative nodes.

Conduct the re-election after the consensus agreement work continues T rounds. In the process of block increase, in case the senior node downtime or the malicious act exists, punish the credibility value. When the credibility value is lower than certain threshold value H , it will be excluded from the decision group, and decision group change information is added in block so that the nodes with the corresponding quantity are re-elected dynamically to include in the decision group.

Economic Model of Poseidon Chain

■ Basic Model ■

PCCM is the native assets on the Poseidon Chain, and PCCM's value origin is that PCCM could represent and measure the digitization economic activity on Poseidon Chain conveniently. PCCM's value is based on two points: Firstly, a certain quantity of PCCM is consumed as the fuel in the application of Poseidon Chain; secondly, be able to participate in the Poseidon Chain community governance by holding PCCM.

(1) The system will collect a certain quantity of commission when the intelligent contract transaction is conducted among the common node (non- DAPP application node) of a PCCM network.

(2) To guarantee the balance between the network and computing resource, the PCCM network and DAPP application node shall hold the corresponding quantity of token based on the resource of such application to be occupied.

(3) DAPP development service provider shall undertake the transaction expenses of trade generated in the DAPP application.

Poseidon Chain would collect the PCCM from each DAPP application development service provide, and pay the GAS needed for the intelligent agreement operation to guarantee the operation of each commercial intelligent agreement; Most PCCM income charged will be regarded as the node reward to pay the node provider,

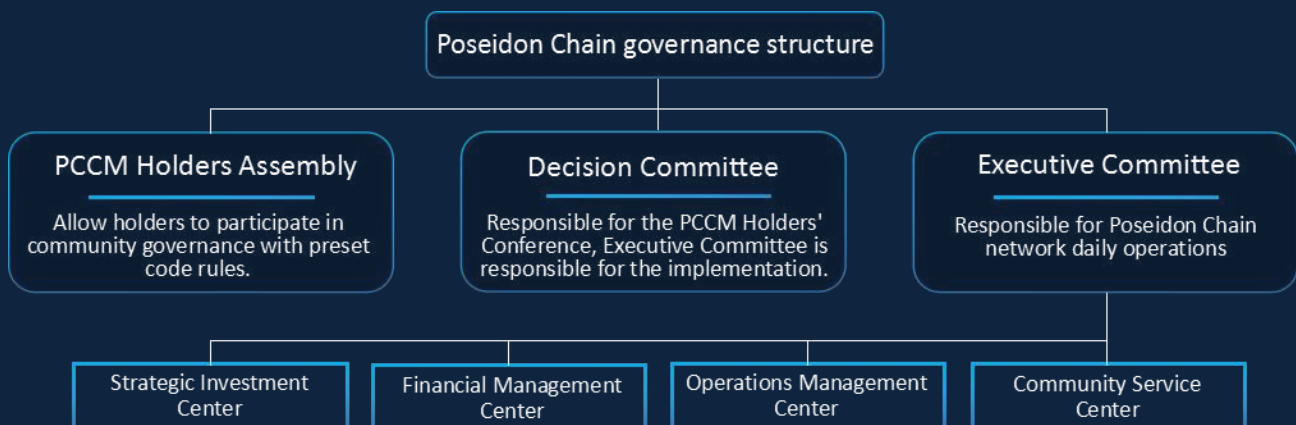
while the remaining part is used for subsequent daily operation, commercial promotion and technology development of the foundation;

DAPP application development service provider conducts the further development and processing on the basis of intelligent agreement service gained according to the demand of final clients, to provide the application product for the final users and collect the PCCM as income; The end user could pay the PCCM to obtain the product and service.

■ PCCM Foundation and Community Governance ■

Poseidon Chain Foundation

The governance of Poseidon Chain adopts a three-layer government structure: PCCM holder meeting, decision committee and executive committee.



The PCCM holder meeting could allow the holder to participate in community governance by pre-setting code.

The decision committee is responsible for the PCCM holder meeting, and the executive committee takes charge of implementing it.

Executive committee takes charge of the daily operation matters of Poseidon Chain network, and sets up a subordinate strategic investment center, financial management center, operation management center and community service center to guide the corresponding business departments to carry out the work respectively.

Poseidon Chain team is setting up the foundation in Malaysia and Hong Kong. As the body for governance of Poseidon Chain, such foundation comprehensively takes charge of managing the Poseidon Chain technical development and application, maintaining the equity of PCCM holder, advertising and promoting the Poseidon Chain brand, etc.

Decentralized PCCM Community

The spreading of the PCCM globally is one part of the PCCM community. Both the DAPP development service provider and the common PCCM holder could participate in PCCM holder meetings held regularly by utilizing the intelligent agreement mechanism. All decisions of Poseidon Chain network are decided by PCCM holder meeting by voting to achieve decentralized community governance.

Poseidon Chain Foundation unites the DAPP development service provider in all communities to provide the maritime special offer for the whole community when providing the technical training and support for DAPP development service provider, applies the PCCM order communication services, entertainment consumption, insurance payment, tourism, shopping, other special discounts and PCCM incentive.

■ PCCM Development Status and Vision ■

As the logistics network block chain project grounded and applied nearly, Poseidon Chain has nearly owned dozens of thousands of users in SEA region at present, and its network nodes have spread to the southeast Pacific. DAPP development service providers have nearly covered many industries such as fisheries, cruise lines, communication, recreation, trade convoys, etc., and even have radiated to coastal ports, hotels, restaurants and shops.



Node Distribution in Poseidon Chain SEA Region

At present, there are lots of commercial nodes (aiming at enterprise) and civil nodes (aiming at common PCCM holders) in Poseidon Chain network, in which, the civil nodes include over two thousands coast stores, hotels, restaurants, leisure and entertainment tenants. Eight communication service nodes are also being opened

externally. With the Poseidon Chain network ocean mobile node, many luxury cruises operate in the southeast Pacific day and night.

The PCCM community regularly organizes the PCCM holder to take part in the ocean cruise of the Poseidon Chain network, the participants only need to own the PCCM wallet APP, then the PCCM could be applied to pay all consumptive units from catering to recreation, and even small consumption on the luxury cruise node. All expenses such as check-in hotel, shopping, sightseeing, etc. at the coastal ports could be paid for with PCCM. When the international remittance is exempted, the tax discount across the sea is owned. At all occasions with PCCM, DAPP development service providers of Poseidon Chain network provide special discounting.

Poseidon Chain has gradually covered the SEA region, and is extending toward the Indian Ocean. Of late, the Foundation has been proactively deploying nodes in the Mediterranean and the Black Sea, with completion anticipated in June 2018. The node deployment in the Pacific Rim and North Atlantic Ocean shall be accomplished near the end of 2018. In 2019, nodes in the most waters of the Caribbean Sea and the Arctic Ocean shall covered. Finally, the parallel of the whole network in the global waters and the most coastwise harbor cities are to be completed in 2020.



Deployment Plan of Poseidon Chain Nodes

The age of navigation is initiating the global prelude for humanity, and Poseidon Chain is its pinnacle. 71% of the world's surface area is ocean. To command the ocean is to lead the world, while a stake in PCCM is to rule the ocean.

Issue and Distribution of TOKEN

■ TOKEN Issuing ■

PCCM are The Only TOKEN of Poseidon Chain. The PCCM embodies the value of the entire Poseidon Chain, its total issue amount is 186 million in the ERC-20 standard. The global Wallet and Exchange conforming to such standards could be received.

■ TOKEN Distribution ■

Instructions: ETH (Ethereum) is ERC-20 standard TOKEN which is used for the issue conversion of PCCM, 60 million are for the Crowdsale, In The Residue 126 Million PCCMs:

△ 46.5 million issue objects are the DAPP development service provider, which is used for the DAPP development operation, strategic deployment and project support, and is the key for commercial implementation of Poseidon Chain.

△ 37.2 million pieces are held by the technical team, which is used for later technical development, system maintenance and DAPP training education, etc. Such part contains three years, which is released by stages.

△ 550 thousand pieces are used for the law and compliance, which are provided for the legal service administrator to enrich the legal team for familiarization with the laws, regulations and international conventions in all coastwise countries through the management of PCCM Foundation.

Δ41.75 million pieces are held by PCCM Foundation, which is used for the ecological incentive, maintenance, promotion and communication governance of Poseidon Chain. The Foundation publicizes the Wallet address.

■ TOKEN Issue Rule ■

Regarding each non-commercial user, the maximum conversion amount and the minimum conversion amount are 10 ETH and 1ETH, respectively.

Users with the conversion amount of 10ETH will become observers of PCCM community, and participate in the ocean swimming testing of cruises (free) in the company of Poseidon Chain team.

The minimum conversion amount and the maximum conversion amount of business users are 10ETH and 50ETH, respectively.

The business user could participate in the operation and maintenance of Poseidon Chain network more deeply, which could not only take part in the ocean cruise test of cruises, and could also visit the commercial nodes at coastal ports on invitation to experience the commercial nodes such as hotels, restaurants, shops, etc.

After completed its Crowdsale circulation, PCCM listed on IDAX on 11th June 2018. And there are 2 to 3 more Exchanges were under final discussion, giving our worldwide PCCM holders with more convenient to access their assets trading

After PCCM issue ends, over two global block chain asset transaction platforms (OKCoin, OKEXC, etc.) will be listed in May. And over five exchanges shall complete the connection in 2018 so that the global PCCM holder may participate in asset transaction conveniently.

PCCM community should organize the ocean cruise monthly, the coastwise investigation, technology summit and other different community activities, and open the PCCM shopping mall to build the cross-border and cross-waters global application community.

Team of Poseidon Chain

Poseidon Chain's team is an international team with a complex knowledge structure. Founding team members include top talents from the research institutes, the IoT industry, financial security firms and commercial operations.



CEO
Michael Daher

Has been in blockchain Development for over 4 years, advising to local and international enterprises. Ranging from design, Development, research and legal compliance, Michael has successfully helped with the growth of over 15 crowd funding efforts to the value of \$50M collectively and continues to grow with real world asset based crypto currency.



CMO Marketing Director
Jason Lee

Multilingual talented. Years of marketing and operation experience. Worked with many international companies for branding, communication and marketing planning. The experience in the marketing and user research develops very good sensitive on new market trends, having a strong insight into the world's emerging technology development, having an unique view on the operation and market of blockchain technology and provide new ideas and business models to the global market.



CTO

He Zuozhou

A double master in computer and finance, and a senior financial system analyst, he has served such institutions as Morgan Stanley, and Agricultural Bank of China, for many years in the architecture business computation core.



SECURITY CONSULTANT

Liu Wenjing

Holding a doctorate Electrical and Computer Engineering, project director of National Science Foundation (NSF) and IEEE CNS (IEEE Communication and Safety) committee core, she mainly researches cross-layer safety and information system defense in wireless networks.

About West Seacoast IOT Institute



West Seacoast IOT Institute

Founded in 2011, the Research Institute is jointly supported by Peking University, China Information Industry Trade Association and Electronic Product Supervision and Inspection Office. It is the comprehensive institution which engages the academic research, development and promotion of technology, counseling and mentoring, journal compilation of IoT with governmental approval. The Research Institute owns other research centers and system software development core teams such as intelligent sensor, RFID, super-speed WLAN, etc. The research result has been successfully applied in fields such as health monitoring of roads and bridges, monitoring and evaluation of geological disasters, and intelligent traffic. The Research Institute is establishing Tianhua Investment Foundation Company at the same time. The investment amount of the project in Phase I is RMB 500 million, and the total investment amount within 4 years is RMB 2 billion, which will drive the IoT technology and industry development in Western Shore Economic Zone including the Taiwan region.

R&D center of Research Institute takes charge of the research and development of various technologies in Research Institute, and is setting up 11 subordinate research centers; including the national and regional IoT monitoring center, intelligent traffic research center, prevention and control research center of geological disaster, remote water conservancy research center, digital city research center, RFID application technology research center, GPS technology application research center, digital classroom research center, life and health research center, logistics information research center, environment project research center, and mine safety research center. Led by one academician, each research center focuses on its respective project.