BAISS: a new standard of blockchain technology
(Beta version)

BAISS LAB*

Abstract

Present-day blockchain technology is too simple to run any complex projects, and therefore the real practical E-commerce project such as Ebay, will never fit in any current blockchain framework. BAISS was created to solve this problem. This document introduces an original protocol that is called Dynamic Distributed Searching Storage Protocol. With the help of this protocol, BAISS is able to build a truly decentralized computing cloud which unlock all the possibility for processing real-world business project on top of it. At the end, we will also cover the multi-currencies generating mechanism of BAISS.

I. Introduction

Blockchain Artificial Intelligent Services System (hereafter, ***BAISS***) is an AI blockchain project with ambitious goal. BAISS aims to provide decentralized platform services, and is also a revolution of the blockchain technological standard. We believe nowadays blockchain technology is too simple to run any complex projects, and therefore real practical E-commerce projects such as Ebay, will never fit in any current blockchain framework. We believe the world need a better version of blockchain technology, so here we develop BAISS.

Instead of adopting old fashioned transaction blockchain structures, BAISS introduces a new protocol which is called ***DDSSP*** (*Dynamic Distributed Searching Storage Protocol*), which organically combines the latest technology of blockchain with artificial intelligence. It balances the transaction per second (TPS) and the level of decentralization, while it is achieving a high TPS, also providing a highly decentralized service architecture.

Eventually, by achieving *higher dimensional saturated structure searching* with the techniques of DDSSP, BAISS network may ultimately reach ten-million of transaction per second without sacrificing a single element of decentralization. And a solid foundation for establishing a truly decentralized computational cloud is now provided by BAISS with the help of DDSSP.

II. Business Side of BAISS

It should be clear by now that BAISS is trying to build a true decentralized computing cloud. However, when we already have a bunch of well-developed centralized computing cloud infrastructures, what motivate BAISS to do the same thing in a decentralized manner?

At present, all internet services and tools used by companies and individuals are all supported by central servers. No matter video or music websites, games, social media platforms, and various mobile applications, they are all involve data transfer and interaction.

The place where these huge data are stored is a huge centralized server cluster. With the

*https://github.com/BAISS-Network

emergence of new applications, enormous new data are created, and data grow exponentially, therefore those centralized server clusters will also be expanded. Those server clusters are usually controlled by a few unicorn companies, what we call *centralized infrastructure service providers* (hereafter, IaaS providers), e.g. Google, Amazon, and Azure.

Since all data are stored on the server clusters which provided by IaaS companies, it will bring several outcomes:

> **The Snowball Effect** As users continue to use their services. Data and capitals will be highly inclined to these IAAS providers. Their data volume will become larger and larger, the data services they provide will get better and better, and again more new data will be created. Under this kind of positive feedback loop, eventually all the other companies will be defeated.
>
> **Monopoly Pricing on the Data Services** When all the other companies cannot provide data services with the same quality and magnitude as the unicorns. Those unicorns will monopolize the game.
>
> **Isolated Data Island Effect** In order to maintain their monopoly advantage, these IaaS providers cannot achieve complete data openness and eventually form some data islands. These data islands are what we call the technology giants.

Traditional IaaS service providers have already monopolized the market. As the result, no matter user, data or capital are now all highly concentrated on these tech giants.

Take Google's business in the cloud computing market as an example. In 2019, the revenue of Google's cloud business reached US $8.918 billion. Compare with the revenue of the same company in 2018 which was US $5.838 billion, it increased by 52.76% (US $3.08 billion) [Google, 2019].

During this period, the amount of user has not changed substantially, but profits have increased dramatically, which indicates that the price of the same service is rised. For startups, this not only means that they have to pay higher operating and maintenance costs, but also means they completely lose the opportunity to compete in the game. Therefore, they can only choose to rely on those tech giants to survive, and because the prices of those infrastructure services continue to rise, the prices of their services will also rise. At the end, consumers pay the bills.

The problem now is: we know centralization is unbalance system, then why we still doing it? This is the fact about centralization. Because under this monopolistic structure, it is impossible for us to look up a better solution. BAISS was born to solve this problem by building a true decentralized computing cloud service.

III. Technical Side of BAISS

BAISS has only one goal, which is to make blockchain technology truly applicable to every single corner of the real world, rather than just becoming a castle in Techno Utopia. However, the current blockchain as a payment platform clearly cannot support the real-world business services even in the near future.

According to the founder of Ethereum and Polkadot Gavin Wood, **isolatability** and **scalability** are the two main obstacles hindering the adoption of blockchain in the real world, and this motivated him to design Polkadot [Wood, 2016].

Here, we take a moment to analyze these two concepts and discuss how to deploy different architecture designs to improve and ultimately eliminate these two obstacles on the road of blockchain development.

i. Isolation Problem

Isolatability measures the level to compatible with different types of demands of multiple parties and applications at a near optimal level under the same framework [Wood, 2016]. Gavin Wood's solution to improving isolatability of blockchain technology is to provide a scalable interactive test platform, which he called "scalable heterogeneous multi-chain" [Wood, 2016], to build different chains on top of Polkadot. In other words, Polkadot can be regarded as a collection of independent chains (the so called "parachains", which according to Gavin Wood, contains Ethereum, Ethereum Classic, Namecoin and Bitcoin [Wood, 2016]).

Even if we ignore Polkadot's centralized business model (auction mechanism) and focus only on its technological innovation, Polkadot still only provides micro-innovation, but not revolution. The revolution here at least implies an excellent experience which the product can deliver to the users. Based on this standard, although we have obtained quite a novel architecture from Polkadot, which is a base-chain that contains many parachains at the same time, the overall structure is still not very practical due to the unsatisfactory qualities (e.g. low TPS or low level of decentralization) of these parachains.

Different from the philosophy of Polkadot's design, we believe products that are needed in the real world are not driven by fancy technical terms, but by great user experiences. The real competitors of blockchain are not various blockchain projects in the circle, but various high-quality solutions provided by the internet world. So now the real challenge is how to develop decentralized products with the same or even better user experience, and this is closely related to the future of blockchain technology. We need an architecture which is specifically designed for all the real-world online business, and this is what BAISS is going to achieve.

BAISS provides an highly efficient decentralized payment architecture that can preserve the real-world commercial payment experience and at the same time it provides users with sufficiently large storage spaces and powerful computing resources. All combinations of these factors make it possible to build a decentralized version of commercial IaaS on top of BAISS. Since we have a decentralized version of IaaS, it is natural that we can also build a truly decentralized version of PaaS, SaaS, and write AI-Dapp on BAISS.

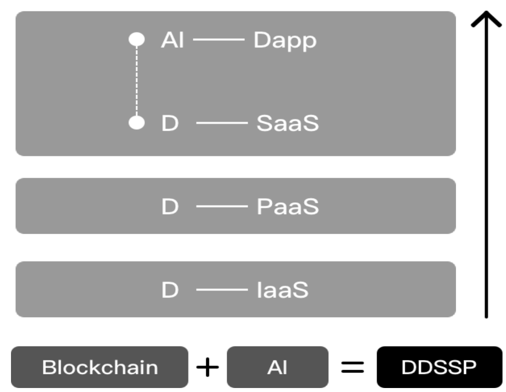

Figure 1: *Architecture of BAISS*

Clearly, BAISS is highly compatible with different types of demands of multiple parties at a near optimal level. All traditional webs or mobile applications can be directly ported to the BAISS system. In other words, BAISS fully meets the isolation requirements.

ii. Scaling Problem

The scalability, in the context of the blockchain literature, refers to the ability to process transactions on the given network. If blockchain is designed to be used by the general public, it must be able to handle the situation where there are million of users on the networks. The scaling is a well known problem and limitation of the the current blockchain technology. Number of transactions that can be processed per second by using blockchain is insufficient to imply for the real-world business solution. For example, it is up to 7 TPS for Bitcoin

[Nakamoto, 2008] and 15 TPS for Ethereum [Wood, 2014], which is clearly inadequate for most traditional business demands that usually require payment methods to process thousand of transactions per second. Centralize payment companies, like Visa, they can handle the problems very well by providing services with an average of 1700 TPS [Visa, 2020]. It, in certain degree, explains the reason why centralized payment companies are still the first choice for the conventional business world.

There is a famous ”Scalability Trilemma”, which is firstly coined by Ethereum founder Vitalik Buterin [Wang, 2020], to describe that it is not possible to equally maximize the three desirable properties which are decentralization, scalability, and security.

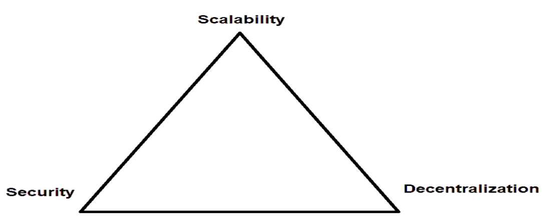

Figure 2: *Scalability Trilemma*

Decentralization is the core philosophy behind blockchain technology. It enables censorship-resistance and permits anyone to participate in a decentralized ecosystem without prejudice. Technically, from a centralized structure to a decentralized structure, chief nodes are replaced by a distributed network with a bunch of peer nodes.

Scalability is an important factor because it determines the capacity of the network. It is related to the number of transactions, speed of transactions, and cost of transactions in the network users can verify.

Security measures the level of defensibility that a blockchain has against attacks from external sources. In the context of the blockchain literature [Stephen et al, 2018], the potential attack vectors are usually refers to 51 Percent Attack, Collusion Attack, Sybil Attack, Distributed Denial of Service Attack (DDoS) and Penny-spend Attack.

There are three combinations existing along with the trilemma:

1. ***Decentralization*** & ***Security***
2. ***Security*** & ***Scalability***
3. ***Scalability*** & ***Decentralization***

Bitcoin and Ethereum were designed with a focus on type (1), which had brought the result of loss of scalability, i.e., both networks have incredibly slow transaction processing times. The reason behind the situation is that all the nodes in the networks must reach the same consensus before transactions can be processed (i.e., Proof-of-Work).

There are some blockchains such as Hyperledger [Hyperledger, 2016] were designed with a focus on type (2). The data stored in this type of blockchain are managed and backup by the database administrators, instead of thousands of peer nodes in a decentralized manner.

Currently, there is not even a single blockchain that satisfies the combination type (3). For blockchains such as EOS [EOS, 2018] have exchanged scalability with a certain degree of decentralization and security. For these type of blockchains, they are usually adopting the consensus mechanisms like Proof-of-Stake processes with nodes or Delegated-Proof-of-Stake processes with super nodes. Logically, the number of super nodes defines the level of decentralization and security of current blockchain system. Moreover, the existence of extreme powerful nodes or super nodes is always accompanied by the loss of fairness.

To sum up, we can deduce an inverse relationship between the notions *TPS* and *Decentralization* from the level of consensus protocol and transaction structure design:

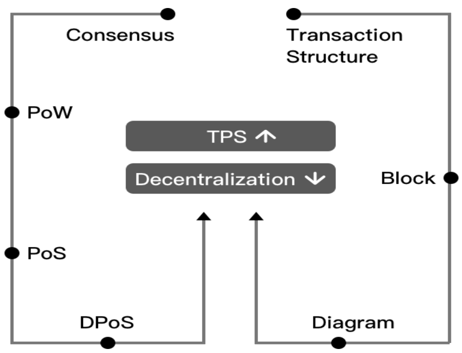

Figure 3: *Inverse Relationship*

If some blockchain networks try to achieve a higher TPS, then it has to give up certain degree of decentralization, and vice versa. *TPS* and *Decentralization* seem to be two concepts that are not fully compatible in the current blockchain technological designs.

However, we believe that the inverse relationship between TPS and decentralization is not vaild. The existence of this reverse relationship is due to the fact that blockchain developers adheres to convention, and therefore the breakthroughs become extremely difficult because the current technical framework basically simply follows the architecture of the old path since Bitcoin. We are now introduce our new protocol DDSSP which we believe it is the key to eliminate all of these difficulties at technical level.

IV. DDSSP

DDSSP is the cornerstone of the entire BAISS system. DDSSP enhances the capabilities of the entire network and enables each node in the network to fast connect with its target node at an astonishing level. At the end, an highly efficient decentralized payment architecture that can preserve the real-world commercial payment experience is present.

So far, those mainstream blockchains are using a gossip-like structured protocol whereby all state modifications to the ledger are broadcasting to all participants. The global consensus is spreading to every single nodes in the whole state through the gossip protocol. The problem here is how can we maintain the efficiency of every node reaching a global consensus when we are managing a broad distributed network with billion of peer nodes.

If every node in the network must know all the other unrelated transactions that occurs globally, then it may severely affect the overall performance and processing speed of the network. Instead, we hope to encompass all transactions in a way that does not sacrifice the decentralization, transaction speed and security provided by the network. In other word, we have to find a way to break the scalability trilemma that we mentioned previously. [1]

We agree that the gossip model may be the fastest communication model for information transmission, at least this is what the textbook says. However, this story does not apply when we attach the model to a wide distributed network.

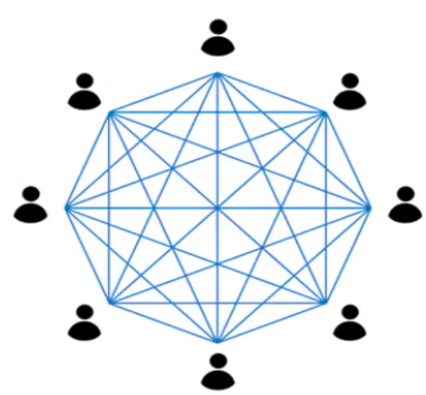

Figure 4: *Complexity Of Distributed Network*

[1] C.f. section III-ii.

At the practical level, due to the complexity considerations [2] , the nodes usually do not need connect to each others. Although the gossip model is usually fast enough to spread information among stranger nodes, but *this does not mean we must treat every node as a stranger node forever*. This new angle provides us some crucial ideas about how to distinguish and process different types of connection between nodes (and super nodes, which we will explain this concept soon).

Definition IV.1. *Given a set of node N, we can define a special **binary operator** $\oslash$ which represent a specific connection between any two nodes* x, y $\in$ *N, which satisfies the following properties:*

1. $x \oslash x = 0$;
2. $x \oslash y > 0$, *if* $x \neq y$;
3. $\forall$ x, y: $x \oslash y = y \oslash x$;
4. $(x \oslash y) \cup (y \oslash z) \geq x \oslash z$
5. $(x \oslash y) \oslash (y \oslash z) = x \oslash z$
6. $\forall\, x \geq 0, y \geq 0$: $(x \cup y) \geq (x \oslash y)$

We use the properties (4) and (5) to model two types of connection. The first type is a normal connection between nodes. The second type of connection involves a process which we called a ”higher dimensional jumping”. Clearly, if we interpret the operator $\oslash$ as the *distance between nodes*, we can see that there is a connection method that connects nodes in a faster way than ordinary approach which is modelled by the union $\cup$.

In fact, we understand the blockchain family is actually an architecture composed of a bunch of layers. Each layers represent different blockchain with different level of *robustness* and *efficiency*. At the basic layer, all the information are spread through the gossip model, and the corresponding blockchains are all completely objective, which are based on the most stringent version of proof-of-work. And they are trying to reach the most universal consensus among different parties who totally do not know each other but still need to conduct transactions.

However, when we think about the business transactions, assuming two user of the networks already have been working very well as partner in the last twenty years, then why do they need to treat themselves as a totally strangers in transaction mechanism (like all the current blockchain networks do)?

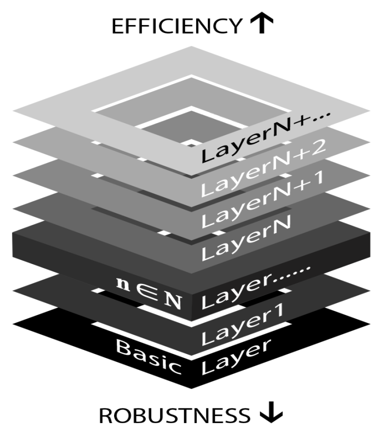

Figure 5: *The Hierarchy of Blockchain Universe*

As we ”jump” above each layer, the layer gradually becomes less robustness, but more efficiency. This trade-off here comes from our **history of trust**. If users have had business cooperations and they already trust each other well enough, then they do not necessarily have to use the most universal robust layer. But we can build a higher layer which it will sacrifice some robustness to exchange efficiency for them.

The gossip model can be described as efficient only when it deals with information spreading between group of people with no previous history of trust. However, once we obtain the trust history of certain nodes indicating

[2]As the nodes grow rapidly, the corresponding path growth involves an exponential effect.

that the connection between these nodes is legitimate (we describe this situation as *the related saturation degree is slightly higher than zero*), then we no longer need to apply the gossip model. In other word, the gossip model is not the most efficient method anymore in this situation. It implies that by generalizing the concept of layers, we can find a more effective way to connect nodes.

In the following, we are going to explain some key concepts, which will be used for the DDSSP mechanism in the future illustation.

1. **Node** is a set of peer nodes make up a distributed system. Each node contributes to the system through providing storage and computing resource. All data stored into the system are distributed among the nodes.
2. **Saturation Degree** measures the distance complexity of node transactions. Higher distance complexity means we have lower saturation degree, and vice versa. Higher saturation degree means that the system can identify and communicate with the related structures in a faster way.
3. **History of Trust** is a special type of well-defined data about nodes, and these data are stored and shared in the BAISS system.
4. **HDSS** stands for *higher dimensional saturated structure*, which is an abstract structure that capture the process of jumping between nodes through layers.
5. **Sweat-gland** stores a bunch of HDSS and provide a dynamic mechanism to manage the jumping process in related HDSS by calculating the saturation of each node.
6. **Super Node** is a peer class that participates in the node discovery system. It stores sweat-gland for all the other nodes in the newwork, and gets paid for providing big amount of storage and computational resources.

The word *dynamic* in the name of the DDSSP represents (a) the dynamic transaction data flow in the BAISS system; and (b) the dynamic process occurs in the sweat-gland.

The component (a) is relatively easy to understand. Since BAISS is a blockchain system that allows users to build real business applications on top of it, thus the system will contain a bunch of **well-defined** transaction data. Then the history of trust can be easily extracted from these records by our **HDSS-algorithms** to build the relevant HDSS. In the following, we will construct a toy model to explicitly illustrate the concepts involved in the component (b).

Definition IV.2. *We define the* ***Model Update Operator*** *$[!\psi]$ which combines with ϕ such that $[!\psi]\phi$ can be interpreted on model M:*

$$\mathrm{M, s} \models [!\psi]\phi \iff \mathrm{M, s} \models \psi \ \text{ implies } \ \mathrm{M}|_{\psi}, \mathrm{s} \models \phi$$

The idea of model update can be applied to any structure, once we have relevant information.

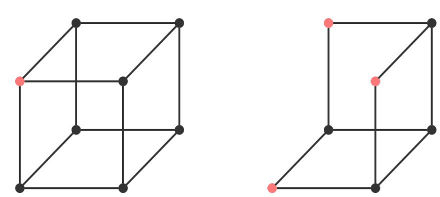

Figure 6: *Update of Structure*

We can see the operator $[!\psi]$ with ϕ is intended to mean ”after ψ is being updated, then ϕ ”.

We may also say ”after ψ is made publicly available, then ϕ ”. For our purposes, it suffices to consider: the events $!\psi$ of new hard information which irreversibly change what we currently know in the network. These can be verbal evidences from some perfectly reliable source, public inter-subjective observations, and obviously history of trust.

From a model theoretic point of view, such an event triggers a change in the current situational model (M, s) with actual state s. More specifically, $!\psi$ eliminates all possible states that are incompatible with ψ, thereby emphasize the existence of the structure on the actual situation. Thus the current model (M, s) changes into its **definable sub-model** $(M|_{\psi}, s)$. The whole idea is all about how to eliminate the non-reliable paths *over time* between nodes after getting new information.

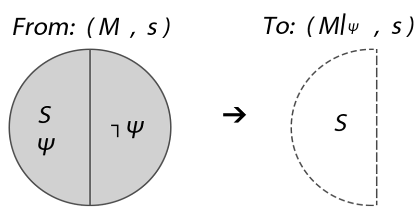

Figure 7: *Information Update of States*

Now we can go back to the *hierarchy of the blockchain universe* (see figure 5). The history of trust from BAISS system provides us a reliable source to reduce *distance complexity*, which it minimizes all those non-legit paths (what we called *path update*) in the whole network.

As mentioned earlier, between different layers of the blockchain hierarchy, we are exchanging the robustness of the structure with the overall efficiency of the entire system. But how to ensure that exchange will not bring us serious systemic risks? From the perspective of model updating, we can see that *the loss of robustness is actually replaced by the credibility of reliable historical records*.

Since we already know that distance complexity can be used to compare different combinations of node connections, and model updating is the only way for us to reduce the distance complexity. So we have to put structures with higher distance complexity (the structures are not be supported by enough history of trust, thus the system cannot process any further path reduction for those structures) into the lower layer of the blockchain hierarchy. For extreme case, when the saturation degree equals **zero**, the structure model will collapses into the classical blockchain structure. In other words, *we have to use the most universal robust layer (**the Basic Layer**) to handle those unreliable entities*.

We give an example below to distinguish different types of node connections.

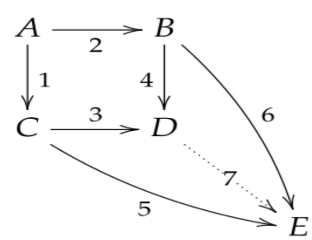

Figure 8: *Classical Node Connection*

If we want to make state A in Figure 8 to reach state E, we have four ways to connect the nodes in order to accomplish this purpose:

(i). $A \to B \to D \to E$; $A \to C \to D \to E$

(ii). $A \to B \to E$; $A \to C \to E$

The first group is clearly redundant, therefore in the classical framework we will make a choice between the two candidates in (ii). However, all the connection processes, from (1) to (7) in Figure 8, are all classical, which means they are all the connection stays in the same layer.

By selecting relevant HDSS (which are stored and *managed* by sweat-glands in BAISS), we can directly connect the state A to the state E in Figure 8 *through other layers* (if we have sufficient history of trust for guarantee the creation of the connection). In our terms, when the related saturation degree is increasing and more than zero, the data traversal will jump some shortcuts in higher-dimensional structures (*layer-jump*). It also explain why we have to distinguish two types of connection by using the $\oslash$ operator and the classical union $\cup$ that satisfy: $(x \oslash y) \cup (y \oslash z) \geq x \oslash z$.

Since the services provided by BAISS will keep growing, and therefore the history of trust will also continue growing. Under the model updating framework, *the entire BAISS will become larger over time, but the node connection system will surprisingly become high level of compact*. Apparently, this fact will contradict to the intuition of most of human. Therefore, the goal of the node discovery system is to look up a node's latest saturation degree. Each node will get the chance to increase saturation degree starting from second and after trade, as saturation degree gets higher, the path between nodes will be shorter. Eventually transaction can be done in a very high speed.

V. Super Node and Node

In BAISS ecosystem, nodes play a major role to support the whole BAISS network working. Nodes have decent compensation to proof its work. For example, nodes can be rewarded by reliably storage files, and providing computational resources. Besides the normal nodes, BAISS also have super nodes. Super nodes here are responsible for carrying sweat-glands with a big amount of transaction data, history of trust and the saturation rate. Node holds header file and **AI algorithm**. Nodes will look in sweat-gland which is in super node when transaction is triggered, and the super nodes will then provide the **node verification** for deciding whether the layer-jump is involved in the current situation.

In mining ecosystem, super node will provide many services to nodes. First, super node storage functions include transaction data in the sweat-gland, store account as service, and sweat-gland storage system will reward to miner by storage size. BAISS will never delete transaction data, therefore sweat-gland will dynamically grow to huge size and it will use titanic space for storage.

Theoretically, flourish market will increase the reward by grow the sweat-gland due to the big amount of transaction data. Second, super node will get reward when node discovery performs action and result. The key of faster transaction per second is higher saturation rate. Node discovery system will **search** and **calculate** the saturation degree for node. AI computing power will account as second reward for super node.

Third, super node will be rewarded when every node's transaction going through it. Transaction process in BAISS involves a search activity for saturation degree in sweat-gland as first step, therefore every transaction have to use super node's resources. Meanwhile node transaction will be split a share to the super node serves nodes.

VI. Comparison with DPOS

Let us go back to the Scalability Trilemma[3]. For blockchains that use Delegated Proof-Of-Stake (DPOS) as their consensus, such as EOS, it is usually be regarded as sacrificing the degree of decentralization in exchange for a higher level of scalability, because there are super nodes in their system [EOS, 2018].

In fact, DPOS itself is not the direct cause of the decline in the degree of decentralization. The real reason is the instances of DPOS, they have only a small number of super nodes. This

[3] C.f. section III-ii.

is the key factor leading EOS to be centralized.

However, for BAISS to reach a consensus, this is not a problem. The goal of BAISS is to provide decentralized cloud computing services with excellent user experience. In order to support different services and applications on a global scale, it is not difficult to imagine that BAISS also needs to establish nodes and corresponding super nodes on a global scale. Once we dramatically increase the number of super nodes, then the problem of centralization will no longer exist.

VII. BIGO token

Multi-currencies generating mechanism is supported on our BAISS chain. Based on the **BAISS-20 protocol**, BAISS will issue its own token which is called ***BIGO***. And BIGO can be further divided into two types of tokens: BIGO_α and BIGO_β.

i. BIGO alpha

BIGO_α is the type of BAISS token that miners get when they provide the specific storage functions and computational resources for maintaining BAISS system. The total amount of BIGO_α is around 2 billion, all produced by processing token mining.

For the miners of BAISS, the token generating process of BIGO_α is to (a) provide storage resources; or (b) provide AI computational resources. Therefore, from the perspective of the entire BAISS economic system, BIGO_α is an incentive mechanism used to motivate all the nodes in the network to maintain the whole BAISS ecosystem.

In order to maintain the dynamics of BAISS system operation, BIGO_α must satisfies the price volatility property, which means when we design BIGO_α we allow its price to change (even dramatically change) over time.

ii. BIGO beta

BIGO_β is the type of BAISS token that is needed when the users experience the services on BAISS system. Contrary to BIGO_α, because the BIGO_β is used to pay for business services on BAISS, we generally do not want big price fluctuations involved. Therefore the key feature of BIGO_β is to resist the token price fluctuations.

Since BIGO_β has this unique property that against inflation and volatility. therefor, business clients will worry-free about payments stability instead facing token price change frequently.

We now know that BIGO_β is a kind of stable coin which can be used in BAISS. So how do we ensure the stability of BIGO_β? Here, BIGO_β does not intend to choose a fiat-backed approach like Tether, which allows users to make direct trades between fiat currency and tokens that are equally valuable to that fiat currency. Similarly, BIGO_β will not choose the crypto-backed stablecoin approach like Dai, which requires users to create Dai by depositing another token. Both of these systems involve the process of creating new tokens by locking up other valuable things (fiat USD or other mainstream tokens) in exchange for newly created tokens.

The problem is that we have to find a way so we can maintain the stability of BIGO_β's price without holding certain fiat-currencies or tokens to guarantee the value of BIGO_β. BAISS provides a solution for this problem.

In the classic quantity theory of money, we have two central principles for controlling the price of money:

- **Money Supply Expansion**: if prices are going up, then expand the money supply to bring them back down.
- **Money Supply Contraction**: if prices are going down, then contract the money

supply to bring them back up.

Inspired by these two classical principles, BAISS proposed **BIGO$_\beta$-GEN System**. According to the **BIGO$_\beta$-GEN Protocol** which defines a target price for BIGO$_\beta$ in the pegged asset, we now have 1 India Rupee (INR) for 1 BIGO$_\beta$.

It is easy to deal with the case of token supply expansion. However, we still have to further explain how to deal with the case of token supply contraction.

There are two types of assets in the BIGO$_\beta$-GEN System. The first type is sure the BIGO$_\beta$, which is a stable currency that is pegged to the India Rupee price. In addition, BIGO$_\beta$-GEN Protocol defines a subsidy asset called BIGO$_\beta$-bond. When the price of BIGO$_\beta$ is less than 1 INR, BIGO$_\beta$-bond will be issued by the BIGO$_\beta$-GEN System for repurchase BIGO$_\beta$. When BIGO$_\beta$ returns to 1 INR, BIGO$_\beta$-bond will be redeemed for 1 INR. At the end, we got the following architecture:

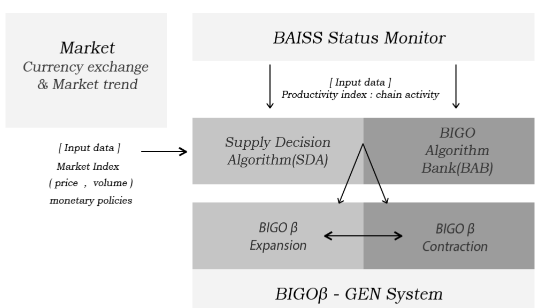

Figure 9: *Architecture of BIGO$_\beta$-GEN System*

VIII. Putting It All Together: Ecosystem on BAISS

BIGO$_\alpha$ can be used for exchange the BIGO$_\beta$ at certain ratio. With the growth of the BAISS ecosystem, the services in BAISS become thrillingly complete, also it attracts more users participate in the system. Therefore, the demand of BIGO$_\beta$ will continually grow, push up the price of BIGO$_\alpha$, which it all creates a decent return for the BIGO$_\alpha$ holders.

One amazing fact is, due to the positive feedback loop between BIGO$_\alpha$ and BIGO$_\beta$, BAISS completely eliminate the monopoly pricing by provide services on BAISS with **zero fee**.

IX. Conclusion

We are in the world which all the centralized technology giants are bullying us by raising their service fees, but we have no other choice.

In this white paper, we introduced BAISS, a truly decentralized computing cloud system, which is blockchain based cutting edge technology. We believe that freedom is the most essential key of human's society, therefor any formalities of monopoly structure system will be obstacle to human freedom of choice. In fact, blockchain technology is definitely not a toy for few geeks. BAISS hopes that innovative blockchain technology breakthroughs can be a whole product to compete with any tech giants' centralized systems, period.

X. Roadmap

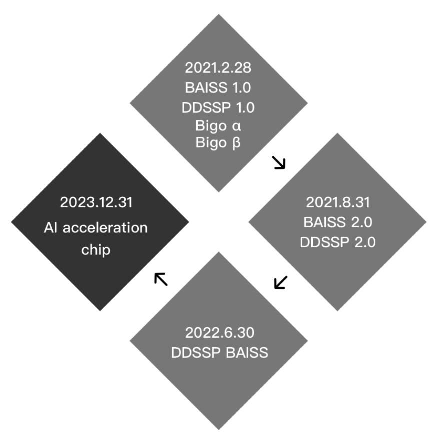

Figure 10: *Roadmap of BAISS Development*

BAISS Lab decides to give the tech community and potential investors 63 millions BIGO$_\alpha$

for economical purpose and network development.

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