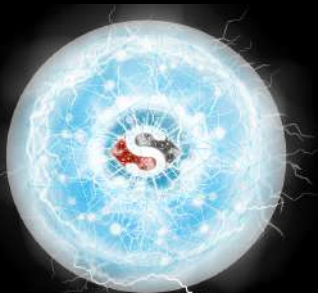


ERA SWAP NETWORK

WHITE PAPER



era swap
NETWORK



DISCLAIMER

This Whitepaper is for Era Swap Network, Era Swap utility Token ("ES") & Era Swap Ecosystem ("ESE"). Its purpose is solely to provide prospective community members with information about the ES project, and it is not an offer or solicitation to buy or sell securities of any kind, or to invest in any financial instruments. This Whitepaper is NOT a prospectus and should not be relied upon to make any financial decisions. No person is bound to enter into any contract or binding legal commitment in relation to ES's services. The ownership of this token gives the community member access to the Era Swap Ecosystem and its decentralized Peer to Peer multiple utility platforms. The ES tokens are not intended to constitute securities in any jurisdiction. Securities law protection is not applicable to participants/stakers here because in ESN they can exercise control over their funds and ES generating activity with their own efforts that will determine their success whether or not the enterprise is successful.

Any agreements reached between the ES Promoter and prospective purchasers regarding the ES utility are solely responsible for their own consent. The Era Swap holders or purchaser should not assume presume profit on their stakings or holding ES as ES value completely rely upon the market forces due to its decentralized structure in a Peer-to-Peer Network, and is not dependent on the Promoters/Developers efforts.

The content in the white paper is subject to be updated, changed and omitted as per latest internal or external technology development and dynamic market scenarios without any prior notice. ES platform will follow the best practice, policies, and procedures intended to ensure legal and regulatory compliance in all jurisdictions within which it operates. All ES members will be required to comply with the Know Your Customer (KYC), Anti-Money Laundering (AML) and Combating Financing of Terrorism (CFT) norms with respect to the global standards. KMPARDS reserves the rights to upgrade, iterate, improvise the platform in future and move or add additional blockchain as and when required for the benefit of the community.

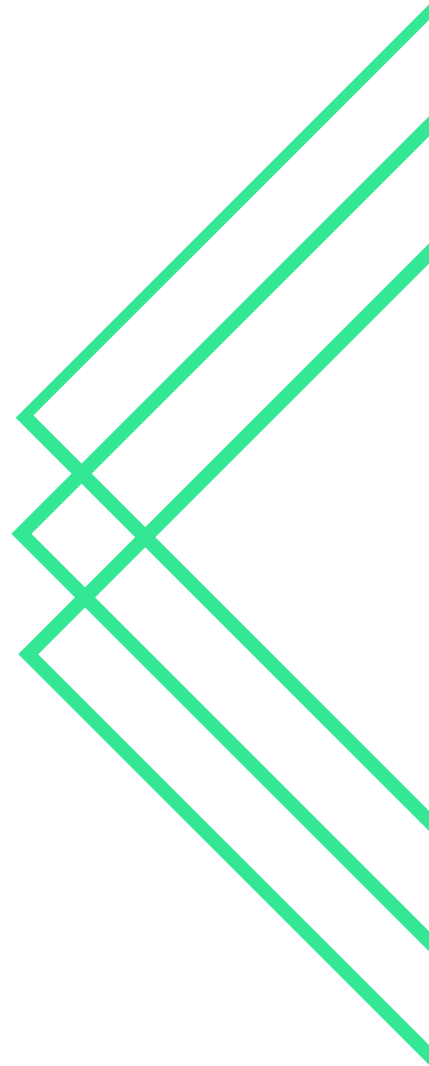




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ABOUT:



WHO?

The roots of Era Swap lie in KMPARDS, an organization, which aims to spread awareness about the next-gen technologies like Blockchain, across the globe, through product research, development, and eLearning.



WHAT

One Utility Token powered on Era Swap Network to be used on multiple interlinked Middlemen-free DApps for Peer to Peer Exchange within the Ecosystem.



WHERE

By Building silde-Blockchain on top of Ethereum blockchain using the plasma framework and sharding to offer Scalability and Speed with comparatively low gas/ Network fee.



WHY?

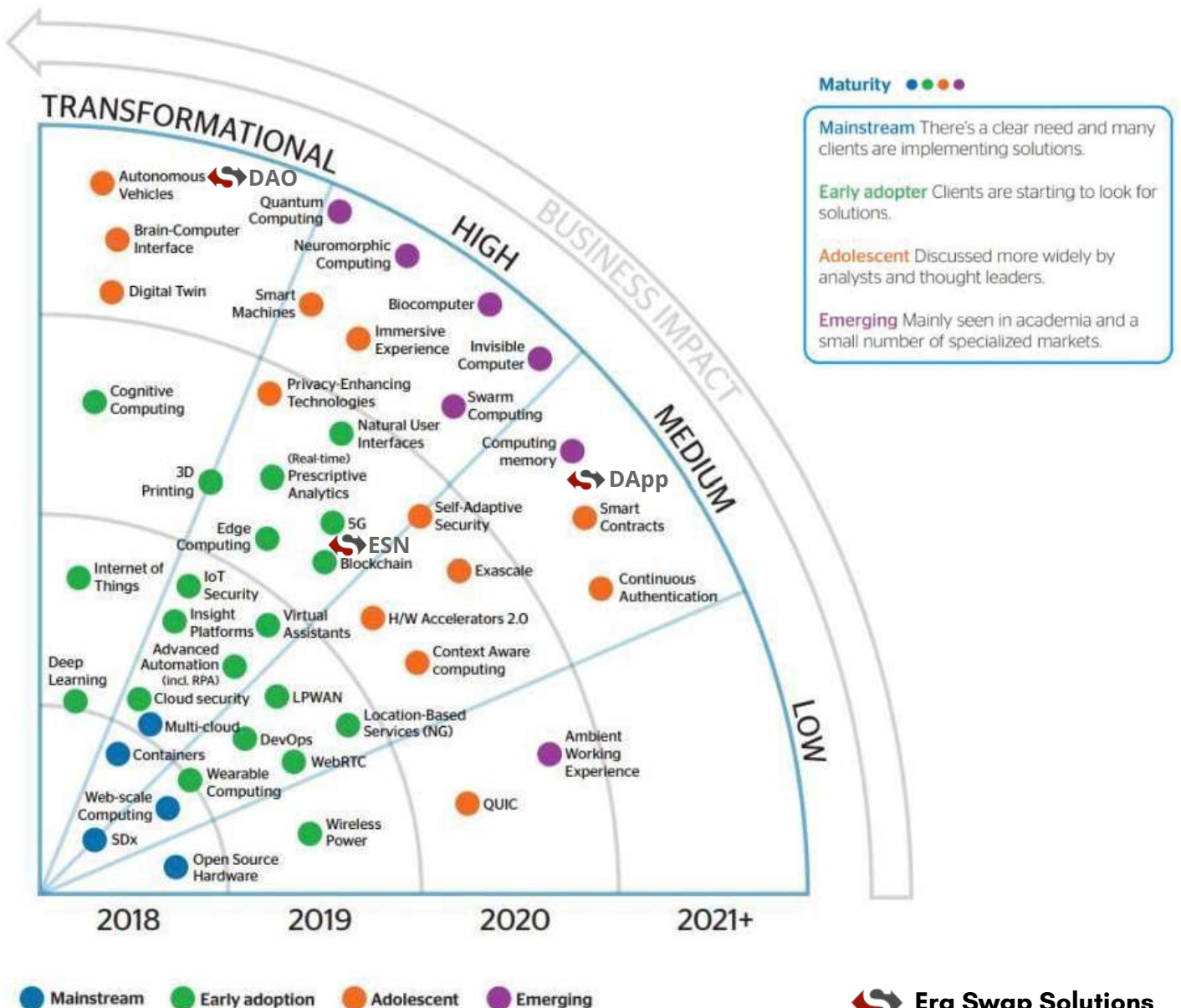
To achieve Scalability, Speed & Low transaction cost for Era Swap Ecosystem users for peer to peer transactions within the ecosystem, without compromising on Trustless Asset Security



WHEN

As Per Era Swap Roadmap

TECHNOLOGIES FOR TOMORROW





Era Swap Decentralized Autonomous Organization (DAO)

DAO is a **Decentralized Autonomous Organization** without any middlemen to control data but instead a smart contract that acts as a trusted source between stake holders and the organization. It is an organization simply governed by computer code & programs where it can work autonomously without central authority. DAO uses a consensus mechanism where stakeholders are aligned to rules for common goals & the welfare of the organization.

How DAO Works?


Once DAO is deployed in a blockchain network, it cannot be controlled by an individual but instead community members of participants i.e stakeholders. Here smart contracts will govern every transaction predefined in the protocol, thus resulting in the best outcome for the network. The most important fact about DAO is that members of DAO are not tied with the traditional formal contract, but tied with the same goals or incentives rewards mentioned in the consensus rules. These rules are fully transparent, thus making DAO a decentralized organization where no single person can take or enforce individual decisions and autonomy to control all the functions on its own.

What is Era Swap DAO? What are different features? How it works?

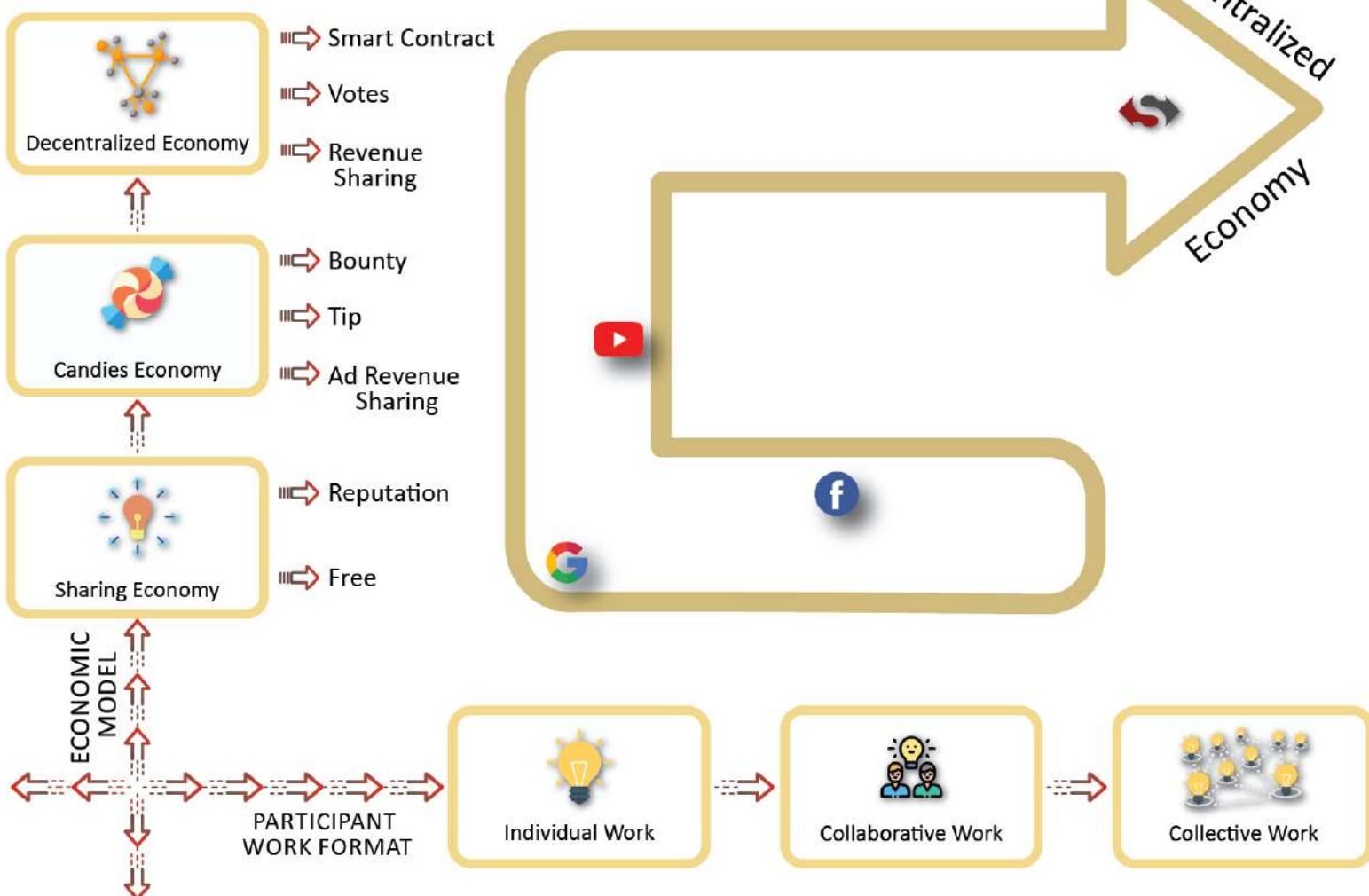
Era Swap DAO is governed by a set of software rules in smart contracts on Era Swap Blockchain Network. Era Swap DAO is the most complex form of smart contracts where distribution of Newly Released Era Swap Tokens is embedded into the code. Era Swap is an open-source organization that is completely transparent and can be presumed incorruptible.

Era Swap DAO uses the consensus mechanism to align the interests of the organization with the interests of its stakeholder. Here, the Interests of the participating members i.e Stakeholders of TimeAlly are aligned to DAO reward rules to claim Era Swap native token. To approve proposals, stakeholders should vote to reach the majority of 66% consensus in Era Swap DAO. Every transaction record & rule has been secured on Era Swap Network. Era Swap DAO is free to adopt.

Comparison of Era Swap DAO with Corporation & Cooperative Organization

	Corporation	Cooperative	DAO 
Management	Board of Directors	Board of Members	PoS Validators
Ownership	Shareholders	Members	Timeally Stakers
Supervision	Supervisory board	Supervisory board Team	Blokcee
Workforce	Employees	Members	Contractors

Era Swap DAO uses PoS Validators which do the management part in Era Swap Network. The ownership is given to TimeAlly Stakers who stake Era Swap tokens, the supervision is done by Blokcee and the workforce is the contractors. In Era Swap DAO, it uses Proof of Stake consensus around token governance by complex smart contracts instead of any kind of legal contract. TimeAlly Smart Contract is the governing protocol that rewards as per the behaviors of participants present in the network.

**KEY LEVERS****Era Swap DAO will have 37 interlinked Smart Contracts / DApps****How Smart Contract Works?**

A smart Contract is a piece of code that is stored in the blockchain network with certain defined actions that automatically executes when certain requirements are met. The users can trust the outcomes as correct because Smart Contract is stored in each computer that is part of that P2P Network.

BENEFITS OF SMART CONTRACT

SECURITY A Smart Contract is encrypted and it is stored distributedly. Hence, it guarantees protection from loss of data and unauthorized access.	SPEED & LOW COST The majority of processors are automated and there are almost no intermediaries in the process, it gives autonomy to the users since they don't need any intermediary like a Broker or Bank or lawyer.	STANDARDIZATION There are 37 various types of Smart Contracts, users can utilize in Era Ecosystem Swap for necessary and specific tasks.
ACCURACY Due to automation and minimization of manual labor, the probability of mistakes and errors is decreased, considering that mini operations that were carried out manually have become the reason for a lot of mistakes.	TRANSPARENCY All interested users can monitor the progress, at the same time, all participants maintain confidentiality.	AUTONOMY All Smart Contracts are self-regulated and self-executory so that people don't have to take part in the process and micromanage.

What is Web 3.0 and how it impacts DApps and Smart Contracts

Web 3.0 is the 3rd generation of the internet where the devices are connected in a decentralized network rather depending on server based databases. The benefits of Web 3.0 are Anti-monopoly and Pro-privacy, Secure Network, Data Ownership, Interoperability, No interruption in service, Permissionless Blockchain, Semantic Web, Ubiquity and more.



Era Swap Key Drivers



Era Swap Foundation

Mission

Era Swap focuses on Competitive DApps Development with Era Swap Utility token for P2P Exchange of services on Scalable Blockchain to disrupt Monopolies.

Vision

To be Most Admired self sustainable Peer to Peer Marketplace for the betterment of the unserved, underserved, undeveloped, underdeveloped by appreciating the value they deliver

Key Drivers of Era Swap Economy

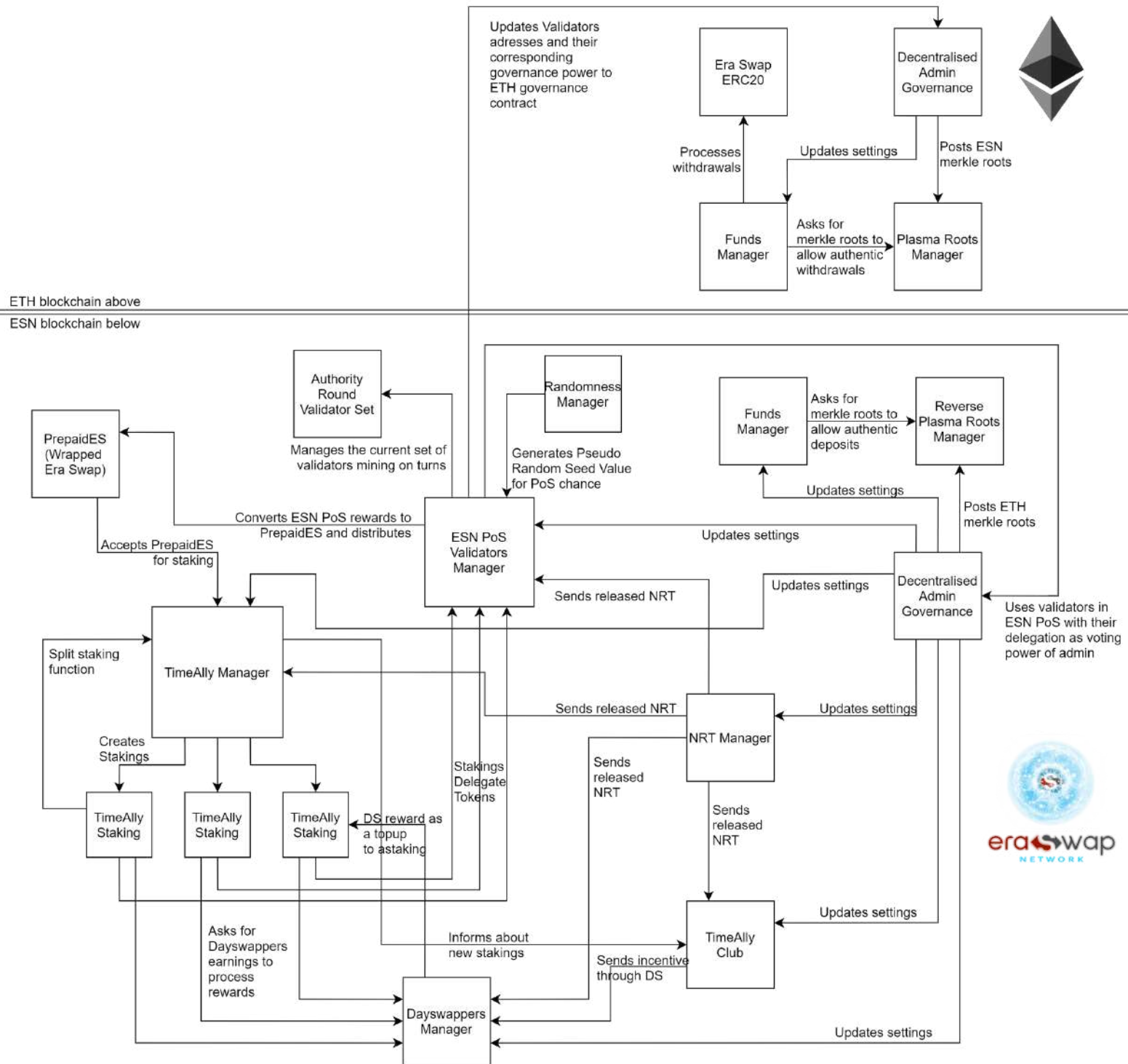
Era Swap blockchain Network allows multiple cloud computing users to enter a loosely coupled peer-to-peer smart contract to mine Era Swap

Era Swap Token is a decentralized token that allows holders for peer to peer exchange using smart contracts within Era Swap decentralized economy.

Era Swap Ecosystem enables the community to eliminate the need to involve a mutually acceptable trusted third party for peer to peer exchange using cost-efficient Era Swap blockchain Network(ESN)



Era Swap Decentralized Autonomous Organization (DAO) Architecture





ERA SWAP NETWORK

Era Swap Network (ESN) Plasma chain is configured to meet Era Swap Ecosystem needs of faster transmission of transactions at a lower cost.

Era Swap Network (ESN) is a PoS-based side-blockchain on top of Ethereum blockchain using the Plasma Framework.

The purpose of establishing ESN is to achieve scalability, speed, and low-cost transactions for Era Swap Ecosystem, on an alternative chain, without compromising on trustless security for users.

ESN will leverage the Decentralized security of Ethereum and the Scalability will be achieved through side-chain. ESN will give 500 transactions in every 5 seconds at 98% lower costs as compared with Ethereum Blockchain.

01

02

03

04





ESN Abstract

The early smart contracts of Era Swap Ecosystem like TimeAlly, Newly Released Tokens (NRT), Assurance, BetDeEx, CertiDapp of Era Swap Ecosystem, are deployed on Ethereum mainnet. These smart contracts are decentralized finance-oriented (DeFi), i.e. most of the transactions are about exchange of Era Swap tokens in peer to peer mode which made paying the gas fees (transaction charges) somewhat intuitive to the user just like withdrawal charges in bank or paying tax while purchasing burgers.

But the charges are in Ether (ETH), which is required in addition to Era Swap tokens to use multiple DApps of Era Swap Ecosystem and it only makes a new user experience, a complex stuff. Also, transactions that are not token oriented like adding a nominee or appointee, voting, etc. also needs considerable amount of gas fees to be charged (that too in ETH) which makes non-finance DApps costly and it fails to attract users from the centralized counterparts.

As multiple platform kept appending to the Era Swap Ecosystem, more non-financial transaction situations arise like updating status, sending a message, resolving a dispute, and so on. Paying extensively for such actions in another currency every time and waiting for the transaction to be included in a block and then waiting for enough block confirmations due to potential chain re-organizations is counter-intuitive to existing free solutions like Facebook, Gmail, etc. This is the main barrier which is stopping Web 3.0 from coming to the mainstream.

As alternatives to Ethereum, there are few other smart contract development platforms that propose their own separate blockchain that features for higher transaction throughput, but they compromise on decentralization for improving transaction speeds. Moreover, the ecosystem tools are most advancing in Ethereum than any other platform due to the massive developer community.

With Era Swap Network, the team aims to achieve scalability, speed and low-cost transactions for Era Swap Ecosystem (which is currently not feasible on Ethereum mainnet), without compromising much on trustless asset security of Era Swap (ES) for community users.





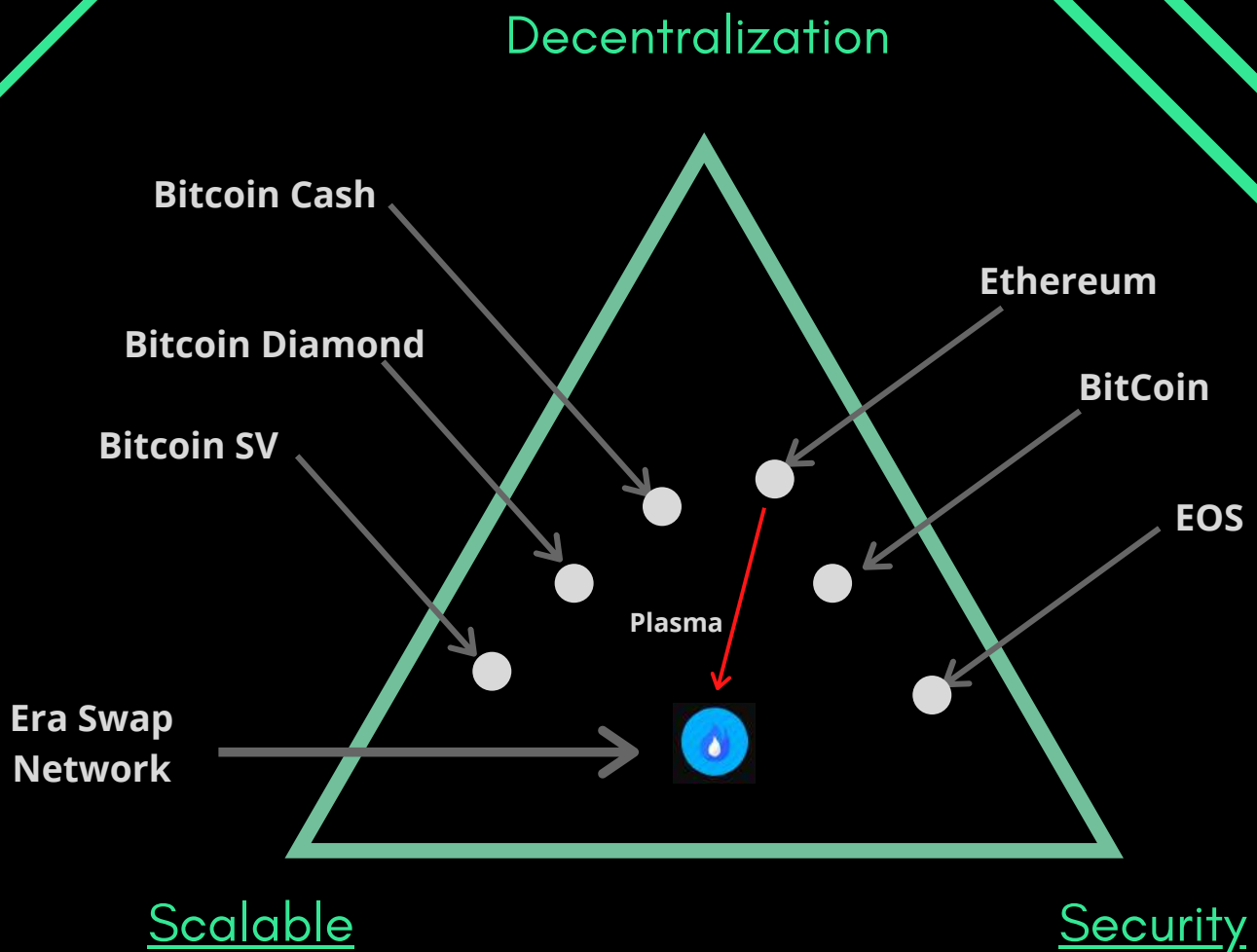
Introduction to Era Swap Network

Era Swap Network (ESN) aims to solve the problems (mentioned in ESN Abstract) faced by Era Swap Ecosystem users by building a Proof of Stake Consensus Protocol (PoS CP) based side-blockchain on top of Ethereum blockchain using the Plasma Framework.

Era Swap Network leverages the Decentralization and Security of Ethereum and the Scalability achieved in the side-chain, which solves the distributed blockchain trilemma for Era Swap Ecosystem.

Currently, Ethereum can do roughly 15 to 20 transactions per second and all the smart contracts including Era Swap DApps that are deployed on Ethereum manage to work with it. While in Era Swap Network, as per ESN Testnet, there could be 500 transactions in every 5 seconds at 98% lower costs as compared with Ethereum Blockchain when maxed out. This gives a huge room for transactions (over 10 million per day) which is advantageous for Era Swap Ecosystem and its users. In future, whenever Era Swap Ecosystem requires more capacity, it can be achieved using sharding.

Era Swap Network consists of Bunches of Blocks of Era Swap Ecosystem Transactions. A miner in ESN produces blocks, and collection of these blocks are selected and a merkle tree is created. The root of the merkle tree is submitted to the ESN Plasma Smart Contract on Ethereum mainnet. This way, all the transactions happening on Era Swap Network are fingerprinted to the Ethereum chain.



A miner mines all the blocks in a bunch consequently and will commit the bunch-root to the ESN Plasma Smart Contract on Ethereum Mainnet

- Layer 1 Blockchain
- Layer 2 Plasma



Development Overview

Initially, a simple Proof-of-Authority (PoA) based consensus of EVM starts the development and testing of Era Swap Ecosystem Smart Contracts, as quickly as possible on the test-net. Era Swap will call this as an alpha-release of ESN test-net and only internal developers will work with this for developing smart contracts for Era Swap Ecosystem. User's funds in a Plasma implementation with a simple consensus like PoA are still secured as already committed bunch-roots cannot be reversed.

Eventually, Era Swap wants to arrive on a more control-decentralized consensus algorithm like Proof-of-Stake (PoS) probably, so that even if the chain operator shuts down their services, a single Era Swap Ecosystem user somewhere in the world can keep the ecosystem alive by running software on their system and similarly more people can join to decentralize the control further. After achieving such an implementation, Era Swap will release this as a beta version to the community for testing the software on their computers with Kovan ERC20 Era Swaps (Ethereum test-net).

Alpha Release of Era Swap Mainnet

In this release, only foundation nodes are allowed to be validators to run the network to keep utility of Era Swap token going with users and enabling Era Swap dapps. In background, the team would be getting ready for a beta testnet, in which community can run testnet nodes and identify issues and fix them before a beta release of Era Swap Mainnet.



Era Swap Network Operations

Era Swap Network leverages the Decentralization and Security of Ethereum and the Scalability achieved in the side-chain, this solves the distributed blockchain trilemma. In most of the other blockchain, blocks are a collection of transactions and all the transactions in one block are mined by a miner in one step. Era Swap Network will consist of Bunches of Blocks of Era Swap Ecosystem Transactions. A miner mines all the blocks in a bunch consequently and will commit the bunch-root to the ESN Plasma Smart Contract on Ethereum mainnet.

The purpose of establishing a blockchain is to achieve scalability, speed and low-cost transactions for Era Swap Ecosystem (which is currently not feasible on Ethereum mainnet), hence on an alternative chain, without compromising much on trustless security for Era Swap Community users. Era Swap blockchain Network solves scalability, speed and low-cost transactions. As per ESN testnet, It could give 500 transactions in every 5 seconds at 98% lower costs as compared with Ethereum Blockchain. Era Swap Network (ESN) aims to solve the above-mentioned problems faced by Era Swap Ecosystem users by building a side-blockchain on top of Ethereum blockchain using the Plasma Framework.

TimeAlly 1 Life Time staking* (not TSGAP, PET) can be used by staker to mine blocks in Era Swap Network. To minimize centralization of plenty of seats in one node, In Era Swap Network, if stakers don't have bandwidth to run and manage a node themselves, they can delegate their stakes to a node runner they trust which helps the node runner to get chance for mining more blocks and earn high profit which will be distributed back to delegators through Smart Contract. Top 100 nodes with most staking shall be considered for mining blocks

Inside a Validator Node, there is an Blokcee and Kami. Blokcee verifies new blocks and the transactions inside them. Blokcee also mines new blocks if it is a validator and Kami guards the bridge between Ethereum Network & Era Swap Network. A Kami looks after the proper functioning of the Blokcee. It keeps a very closer look on the Blokcee for any kind of attack taking place. If it senses one, it's guardian form get's activated and it starts taking preventive measures to stop the attack.

***TimeAlly 1 Life Time Staking Smart Contract is also known as TA 1LT**





ERA SWAP NETWORK

SNAPSHOT

ESN Snapshot	Block Finalizer
Impact	Mines Blocks on ESN
Reward name	Block Finalizer Reward
Participate 24*7 Consensus	Yes
Selection	1) Randomly 5 seats Online shall be selected for 40 blocks 2) Count no. of nodes participating in 66% consensus
Eligibility with minimum ES Stakes	Minimum of 170000 ES Staking required, Additional staking shall be adjusted Quadratically Calculated as per Quadratic Table. Staking Delegation can be achieved from multiple delegators, Top 100 nodes shall only be eligible for mining Refer ESN White Paper.
Prerequisite	Server cost
Reward as per Performance	Count of Blocks finalized
Reward Distribution of 12% per annum of current NRT	Individual Blocks Mined/ Total Blocks Mined
Market Variance	Server cost
Participation Criteria for rewards	Seats in the Top 100 Nodes
Non-compliance	1) Went offline while producing block 2) When 2 different blocks with the same block no. are submitted by same server wallet.
Penalty Impact for Non-compliance	1) 30000 ES Stakes shall be burned 2) 70000 ES burn stakes and suspension till next NRT Month 3) Maximum Exception of 3 hours offline
Approver	ESN Nodes Consensus Protocol
Server Capacity	AWS EC2 T2 Medium / Large, RAM 25GB minimum
Maximum no. of Nodes	100
Total Reward of NRT per Month (12%)	9.4993%Block Finalizer Reward
Total Reward Per Month (ES)	5831075.25
Total Reward Per Year (ES)	69972903.00
Build Consensus (ESN 1 Block 4 Seconds)	Nodes are being rolled, using cryptography 5 seats are being selected randomly for every 40 blocks
Network Fee	100%
External Dependence	Open Internet Connection
Internal Dependency	Rust, Node JS, System Testing, Virus Free System
Hardware Specification (Minimum Requirement)	4GB RAM, i3 Processor, 30 GB free Space



Era Swap Network: Specification

Era Swap Network (ESN) will be a separate EVM-compatible sidechain attached to Ethereum blockchain as it's parent chain using Plasma Framework. The idea behind plasma framework is to avoid high transaction fees and high transaction confirmation times on Ethereum mainnet by doing all the ecosystem transactions off-chain and only post a small information to an Ethereum Smart Contract which would represent hash of plenty of ecosystem transactions. Also, to feature movement of Era Swap Tokens from Ethereum blockchain to ESN using cryptographic proof, reverse posting of Ethereum blocks on ESN blockchain will be implemented.

Also, submitting hash of each ESN blocks to ESN Plasma Smart Contract on Ethereum would force ESN to have a block time equal to or more than Ethereum's 15 second time as well as it would be very much costly to post lot of hashes to an Ethereum Smart Contract. This is why, merkle root of hashes of bunch of blocks would instead be submitted to ESN Plasma Smart Contract on Ethereum. There are more rewards for submitting a larger bunch / delayed.

Era Swap Network Validator nodes form the Era Swap Network that create blocks with PoS Consensus Protocol on along with the guardian Blokcee to protect the bridge between Era Swap Network and Ethereum Network. Era Swap is imposing a strict validator node count limit to 100 nodes.

TimeAlly 1 Life Time staking (not TSGAP, PET) can be used by staker to claim PoS seats for themselves or for others, which means it is possible for stakers to delegate their staking power to a responsible node according to them. If more than one seats are being registered, the cost PoS seats keep increasing, as per time and situations.



High Level Actors Involved

These are the actors that appear to a layman user.

- TimeAlly 1 Life Time Stakers

These are users who have some of their Era Swap Tokens staked in TimeAlly 1LT contract. TimeAlly 1LT stakings can claim PoS seats which can be used to get validator status or delegate seats to others.

- Validator Nodes

It is possible for anyone to run an validator node but to become a validator and produce blocks to earn rewards, at least one PoS seat is needed (which can be claimed by TimeAlly 1LT stakers). Validator Node contains ESN Node and Blokcee inside it.

- Era Swap Users

Users who utilizes dApps of Era Swap Ecosystem using their web browser or through an app on their phone.



Low Level Actors Involved

These are the actors in the underlying validator node.

- **Blokcee – The block validator of ESN**

This is an EVM-compatible node with consensus achieved with PoS Smart Contracts. For a node operator to get a chance to propose a block, they have to stake tokens in TimeAlly and claim one or multiple PoS seats.

Every slab (40 blocks), 5 seats are selected pseudo-randomly from all the seats. Holders of these seats take turns to propose a block which gets checked by all the nodes and accepted if it's valid. If the node doesn't propose a block in allowed time, the next seat gets the turn to propose the block. After finish of the slab, new seats are selected randomly and process follows similarly. A penalty of 70,000 ES stakes burn is given if a network split occurs because of the node not producing a block. Also, if a node authors 2 different blocks in one chance, penalty of 70,000 ES stakes burn.

Block Proposer receives a Block Proposer Reward for every block they propose and these rewards can be used to claim actual ES tokens being released from next month NRT.

- **Kami – The Guardian of ESN**

Technically, this is a background process that runs with the ESN node. The ESN node checks transactions upto an EVM context, while this is something more. A Kami looks after the proper functioning of the ESN. It keeps a very closer look on the ESN for any kind of attack taking place. If it senses one, it's guardian form get's activated and it does everything it can to prevent attack from happening.



Responsibilities of a Kami:

1. Post merkle roots from Ethereum to ESN. Since, Ethereum is PoW based, there is a possibility for reorgs in the Ethereum blockchain. All the Kami's check if something like this is happening and update the longest chain merkle roots in ESN. This task does not cost anything, hence no reward is given.
2. Maintain proper consensus of ESN. Sometimes when some specific validator nodes act maliciously, ESN can be affected. Kami's detect any such sort of issue, and with consensus of other Kami's, the malicious validator seats is suspended.
3. Check of attacks and prevent them. In times of attack, a Kami increases the security and tries as much as possible to stop the attacker's attempts to take the network down. In case of a transaction spamming attack, Kami recognizes sudden increase in transactions and counters with increased minimum gas price to drain attacker's wallet faster. In case of a theft transaction, the Kami's in the validator nodes can take decision to rollback the blockchain with consensus to a block where the hack didn't take place and fork out with a clean version.
4. Give remote control access to the owner of the node. Owners can control the node from their mobile phone. The owner is authenticated by the Kami using Elliptic curve cryptography.



Quadratic Cost for PoS Seats

Quadratic Adjustment in PoS: To minimize the centralization due to huge staking in one node, we introduce a quadratic adjustment scheme in which for huge stakings on one node the adjustment is also huge. Adjusted staking = Total staked - Adjustment

Quadratic Formula & Quadratic Methodology Summary

$$0.001 * L * (170000 * (L-1)) / 2 + 0.001 * L * (G - (170000 * L))$$

G = Initial Staking

L = Round up ((G/170000)) - 1

If $G \% 170000 = 0$, L = (G/170000) - 1 else L = Quotient (G/170000)

The maximum Adjustment can happen is upto 2.5% of the staking.

Quadratic Methodology Summary			
Amount of Staking	Adjustment Applied	Final Adjusted Amount (Amount of staking subtracted by adjustment applied)	Premium %
170000.000	0	170000.000	0.00%
200000.000	30	199970.000	0.02%
300000.000	130	299870.000	0.04%
340000.000	170	339830.000	0.05%
500000.000	490	499510.000	0.10%
1000000.000	2450	997550.000	0.25%
1500000.000	5880	1494120.000	0.39%
2000000.000	10780	1989220.000	0.54%
2500000.000	17150	2482850.000	0.69%
3000000.000	24990	2975010.000	0.83%
4000000.000	45080	3954920.000	1.13%
5000000.000	71050	4928950.000	1.42%
6000000.000	102900	5897100.000	1.72%
7000000.000	140630	6859370.000	2.01%
8000000.000	184240	7815760.000	2.30%
8500000.000	208250	8291750.000	2.45%
9000000.000	225000	8775000.000	2.50%
10000000.000	250000	9750000.000	2.50%
12500000.000	312500	12187500.000	2.50%
15000000.000	375000	14625000.000	2.50%
20000000.000	500000	19500000.000	2.50%
30000000.000	750000	29250000.000	2.50%
50000000.000	1250000	48750000.000	2.50%
100000000.000	2500000	97500000.000	2.50%



Era Swap Guarantor

For securing the Era Swap Ecosystem, a reliable option is Proof of Stake (PoS). There are people with money but cannot work, as well as, people who can work but do not have money. Due to this problem, a considerable part of the community might not be able to fully participate in Era Swap Ecosystem, so we introduce Delegated Proof of Stake in Era Swap Ecosystem to counter this problem. Members with fewer stakes can demonstrate their good work and people with more stakes can identify such members and guarantee a part of their stake to these members, in any numbers, in Era Swap Ecosystem.

Actual stakeholders receive TimeAlly benefits and they can temporarily distribute their decision making power to other members, which they can take back from members at any point of the time. In any event of malicious behavior from the member who got delegated, the penalty will be to wipe off member's personal stakes and balance penalty from the guarantor's stakes. When the staking period of the stakeholder finishes, the guarantee will be pulled off from the members, automatically.

Any Services on the platforms of Era Swap ecosystem, which requires stakes have the provision to appoint the guarantors. All the Platforms of Era Swap Ecosystem will have Provision for any seller selling products and services on platform to request for Guarantor (who has adequate staking for the required services). The Staker who is providing a guarantee will have an IssTime Limit based on his current staking value. The Staker accepts to Become guarantor for the requestor and can choose to accept or decline request for guarantee.

How it Works

- The Guarantor will be able to see his Guarantee Limit (IssTime Limit) in his TimeAlly staking.
- The Guarantor will be able to stake for Requester from his TimeAlly 1LT staking.
- After Successful Maturity of Guarantee Period, the Guarantee Stake will come back in Guarantor's TimeAlly.
- A Requester can have multiple Guarantors based on mutual agreement of incentive for provided Guarantee.
- The Guarantor will charge ES from Requester in P2P mode for staking on behalf of him.
- The Guarantor & Requester will mutually agree to the charges for Guarantee based on the period of the Project.
- If the Requester further defaults during his role / service duration in the ecosystem, then the penalty will be deducted from the staked amount by Guarantor.



Methodology of Guarantor Function

Guarantor Function is a delegation method which will be implemented in the redeployed TimeAlly (ESN edition). In TimeAlly 1 Life Time Smart Contract, a stakeholder can use their stake to guarantee as per their IssTime Limit of TimeAlly Loan. Here, a staker can link their stakings to give guarantee (as per his individual IssTime Limit) of their 1 Life Time stakings (for every NRT month) to another contract.

Doing so, some credits are generated in the other contract (Curators, VoF, Renting, ..., etc) which can be used to perform critical and honest tasks for Era Swap Ecosystem. A part of staking, as per IssTime Limit is used to provide guarantee to one contract cannot be double guaranteed to other contract again.

Here, Guarantor Function of TimeAlly is used to register seats for block producer consensus in Era Swap Network.

Also, if guarantee is misused by doing some malicious task, the contract can send a negative signal to TimeAlly and then the TimeAlly Smart Contract burns the staking linked to the guarantee or it arranges for a recovery option which might be required by some contracts like RentingDApp.

Guarantor Pooling in Era swap network (ESN)

In Era Swap Network, if stakers cannot run their node, they can guarantee their stakes to a node runner they trust which helps the node runner to register more seats and earn high profit which will be distributed back to guarantor through Smart Contract.

A node can have multiple staker guaranteeing, and this can increase number of seats but quadratic cost will be applied. When the final profit received after NRT is released, the node runner keeps it's predefined cut and rest rewards share is distributed to guarantors in proportion of their guarantee.

Important to note:

If the node is caught doing any malpractices, for example, to create a double spend (by proposing two different blocks for same height), applicable amount of stakes of the supporters will be burned in proportion of their guarantee. Hence, it is the responsibility of stakers to only pool with nodes whose owner is trustable or has a good standing to minimise chance of malpractice or run their own node.



NRT Rewards Allocation

The task that requires an effort (financial or moral), there should be some benefit available high enough to drive the desired effort.

Block Finaliser Reward

It is possible for anyone to run an validator node but to become a validator and produce blocks to earn rewards, at least one PoS seat is needed (which can be claimed by TimeAlly stakers). Validator Nodes are also responsible for posting hashes to Ethereum Network. Validator Node contains ESN Node and Blokcee inside it.

Bunch Structure

A Bunch Structure in Smart Contract will consist of the following:

- **Start Block Number:** It is the number of first ESN block in the bunch.
- **Bunch Depth:** It is Merkle Tree depth of blocks in the bunch. As shown in the figure, every level deep we go, 2 more nodes get added. Here, the bunch depth is 3, hence there would be 8 blocks in the bunch. And if we would draw upto bunch depth is 10, there would be 1024 blocks in the bunch. Bunch depth of Bunches on ESN Plasma Contract is designed to be variable. During the initial phases of ESN, bunch depth would be high, for e.g. 15, to avoid ether expenditure and would be decreased in due course of time.
- **Transactions Mega Root:** This value is the merkle root of all the transaction roots in the bunch. This is used by Smart Contract to verify that a transaction was sent on the chain.
- **Receipts Mega Root:** This value is the merkle root of all the receipt roots in the bunch. This is used to verify that the transaction execution was successful.
- **Last Block Hash:** This is the hash of last block. This is used for checkpointing the Blokcee



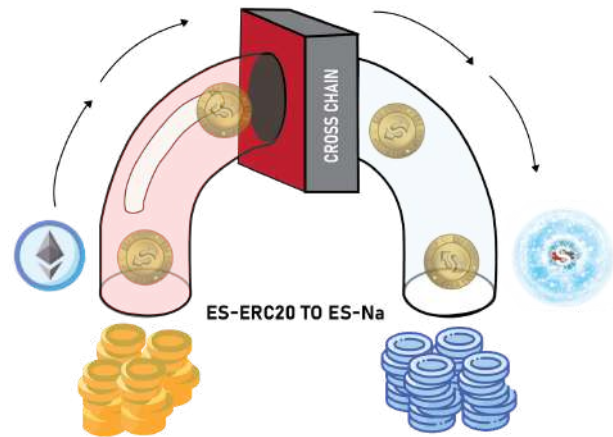
Converting ES-ERC20 to ES-Na

On Ethereum Blockchain, the first class cryptotoken is ETH and rest other tokens managed by smart contracts are second class. On ESN, there is an advancement to have Era Swaps as a first class cryptotoken. This cryptotoken will feature better user experience and to differentiate it from the classic ERC20 Era Swaps, it will be called as Era Swap Natives (ES-Na). According to the Era Swap Whitepaper, maximum 910 crores (9.1 Million) ES will exist which will be slowly released in circulation every month.

Era Swaps will exist as ES-ERC20 as well as in form of ES-Na. One of these can be exchanged for the other at 1:1 ratio.

Following is how user will convert ES-ERC20 to ES-Na:

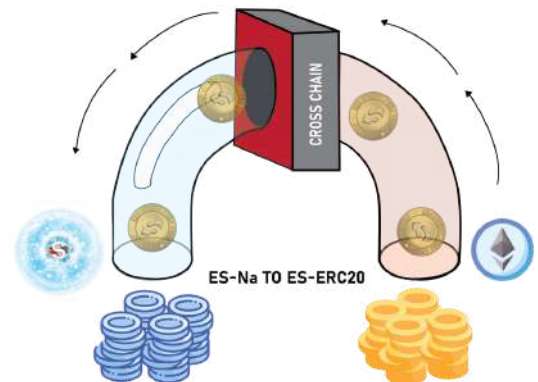
1. User will send their tokens to a Deposit Smart Contract address.
2. On transaction confirmation, a cryptographic proof will be generated by user's computer automatically (which is like a receipt of the deposit). To generate a proof, user's computer by fetches all the transactions in the Ethereum Block in which the transaction was confirmed and it constructs a Transaction Patricia Merkle Proof which can cryptographically prove that user's transaction was indeed included in the block and the Receipts Patricia Merkle Proof to confirm that the user's transaction was successful.
3. User will submit the generated proof to a Smart Contract on ESN, which would send Era Swap Native tokens to user's wallet address. Though, user will have to wait for the Ethereum block roots to be posted to ESN after waiting for confirmations which would take about 3 minutes. Once, it's done user's proofs will be accepted and will receive exact amount of ES-Na on ESN.



Converting ES-Na to ES-ERC20

Following is how user will convert ES-Na to ES-ERC20:

1. User has to send their ES-Na to a deposit contract on ESN.
2. Just like in previous case, a cryptographic proof will be generated by user's computer automatically. ES-Na being first class cryptocurrency on ESN, Transaction Patricia Merkle Proof is enough to prove that user's transaction was indeed included in the block. Another thing which will be generated is the block inclusion proof in the bunch.



3. User will have to wait for the bunch to be posted to the Ethereum Plasma Contract by somebody else or user can choose to pay Gas fee and post the bunch roots themselves.
4. Once the bunch (that includes the ESN block that includes user's transaction) is posted to Plasma Contract on Ethereum, user can send the proof to the Plasma Smart Contract to receive ES-ERC20 tokens back.



Launch of New ESN Chain

HOW OLD ES TOKEN SWAPPING WILL BE DONE WITH NEW ES TOKENS

Existing ERC20 token contract was never designed keeping ESN in mind. Existing DApps like NRT, -TimeAlly which is the core of ESE need to migrate to ESN, and for this, a fresh ES contract needs to be deployed in order to make it compatible with ESN.

The old ES Tokens will become valueless as those tokens will not be accepted in ESN. All existing KYC approved ES holders will receive new ES token. ES holders can do their KYC on KYC DApp (<https://kycdapp.com>) to receive new Era Swap tokens after successful initiation of Era Swap Network. Those who have already done their KYC on <https://eraswaptoken.io> or <https://dayswappers.com> need not re-apply for KYC to receive Era Swap. **Existing TimeAlly Stake holders will receive TimeAlly 1 LT Smart Contract on Era Swap Network.**

Before launch of Era Swap Network Blockchain our Existing Era Swap users had to pay gas in ETH for multiple platforms in Era Swap Ecosystem. The launch of Era Swap Network will enable users to move their ES ERC20 tokens to ESN PoS secured blockchain using a user friendly merkle swap portal and do instantly confirmed transactions and pay gas in ES itself, as well as can take tokens back to ERC20 to use their ES tokens elsewhere on other DApps or Applications on Ethereum which welcome ES tokens. (but there users might have to pay gas in ETH and wait long for transactions to be confirmed)



Attack Vectors

A Validator node with stakes authors a block with an invalid transaction

Whenever a block is received, every node in ESN checks if it satisfies EVM rules. If it does not, then the block is rejected and next seat is given chance to author the block. Hence, a block producer cannot include invalid transactions while producing the block because if it did, it would only lose its block producer reward.

A Validator node with stakes attempts double spend

When a malicious node (with stakes) tries to do double spend by creating and sending 2 different blocks, this is quickly identified by the network of other nodes communicating with each other. Proof of the malicious activity (signatures on two blocks of same height) is shared to all the network participants and stakes corresponding to malicious node are burned.

A Validator node with stakes tries to predict their selection

The validator set is randomized by a seed that includes the previous block hash which is unknown until the block is finalized. Hence, it is extremely difficult to predict when a validator will be selected.

All selected validators don't produce blocks or Handover doesn't take place due to a validators refusing to sign off

In such an event, the Blokcees of all the ESN nodes, will come in consensus with each other and fork out with a new set of validators slashing stakes associated with seats of validators that caused the issue.

Transaction Spamming DOS on ESN

When a Blokcee detects this, it will increase the minimum gas required limit. When a spam attack is done such that a Blokcee cannot detect it, the Blokcee's owners can take an initiative to increase the minimum gas fee limit from their phone.

Requests Spamming on Blokcee

When a Blokcee detects unusual load from another Blokcee or outside, it will deny processing any anonymous requests and demand a signature authentication.

Validators Disappear

If important validators disappear, the network not able to achieve 66% consensus. In such case, the Blokcee's will wait for a certain time for validators to reappear, else they will fork out (this process is complex) and their stakes will be slashed.

To reduce chances of this from happening naturally, there will be an attendance system where every validator's Blokcee will have to mark themselves present for the next slab, in case they are not, they will not be considered in 100% until the next slab. In case there are less than 5 seats occupied, all those seats will be block producers.



Future Scope in ESN

Sharding

Once the blockchain reaches its capacity, to increase the capacity of ESN, one more blockchain will be deployed and it will be called as a shard. Any number of shards can be added when required and the transaction speed of ESN would be sum of transaction speeds of individual shards.

Cross blockchain transactions will be achieved by posting merkle roots of a shard to every other shard. Increasing shards requires more nodes taking responsibility for securing each shard by preventing malicious behavior of any other validators and it can be achieved since if ESN with one blockchain has reached its capacity means there would be enough community to take responsibility. Sharding in ESN will be initiated when ESN attracts lot of users, and transactions are maintained at its peak.

Sharding can be used to horizontally scale as much as wanted. Currently, if one ESN blockchain achieves around 500 transactions in every block, then to achieve 5000 about 10 shards (including the beacon chain) will be required.

This will be implemented when regular users on Era Swap Network increase.

Messaging Protocol

Since Blokcees can communicate with each other as well as Era Swap Users can communicate with different different Blokcees, this gives a potential of the network of Blokcees to also relay some messages around. Nodes can choose to participate in this, they can generate more funds.



ROAD MAP PLANNING

Since ESN is a public system, i.e. any one can enter it into it, there are chances of people exploiting the system. To avoid ESN exploitation from the bad guys, lot of checks are drafted in this whitepaper. However, during development process, it is possible that Era Swap might figure out more points to be taken care of or Era Swap might want to change entire core system (like how Era Swap shifted from PlanB to PlanC for better security). Hence changes to the road map are expected.

- ✓ ESN Blockchain from Parity
- ✓ Data Structure for posting Merkle roots to an Ethereum smart contract
- ✓ Logic for verifying a transaction and receipt from a mega Merkle root
- ✓ Implementation of transaction verification and testing
- ✓ Logic for Bunch Verification using multiple signatures
- ✓ Implementation of Dummy Bunch Verification (centralized) and testing
- ✓ Implementation of a basic Kami that asks for signatures from others and submits Bunches✓ Implement Kami posting the Ethereum blocks to ESN
- ✓ Logic for Transferring ES from one chain to other chain
- ✓ Implementation of cross blockchain ES transfer contracts and testing
- ✓ Create basic UI for cross blockchain transfer of tokens
- ✓ Logic for Transferring information from one chain to other chain
 - Implementation of Information Transfer and testing
 - Implementation in Kami to stop and start Parity Ethereum
- ✓ Logic for Node Validators Pool (Basic delegation of stakings to a node with a dummy TimeAlly contract)
- ✓ Implementation of Node Validator Seats Allocation Smart Contract and testing
- ✓ Logic for Pseudo Random Numbers Contract
- ✓ Implementation of Pseudo Random Number Contract and testing
- ✓ Logic for Block Producer Selector Smart Contract
- ✓ Implementation of Block Producer Selector Smart Contract
- ✓ Logic for Block Reward Contract
 - Implementation of Block Reward Contract and testing
 - Final Implementation of Bunch Verification and testing with validators.
 - Logic for Cross chain transfer of Bunch Signer Awards, Submission Awards, ValidatorLinking Awards



Roadmap Planning

- Implementation of Bunch Signer Awards, Submission, Validator Linking and testing.
- ✓ Upgradable Smart Contracts framework design (initially with admin control).
- ✓ NRT Smart Contract Architecture Planning.
 - NRT Smart Contract Implementation and testing.
 - Replacing dummy TimeAlly with real TimeAlly contract
- ✓ Implement Guarantor Function to delegate seats power
 - Implement Guarantor Stakes burn
 - Implement Guarantor rewards delivery
 - Add restake method in TimeAlly
 - Add restake method in PoS Validator Manager contract
 - Dayswapper Contract Tree Referral
 - Dayswapper Rewards distribution
- ✓ ESN Nodes Monitor Framework, to see whats currently happening live with a node
 - Advanced ESN Monitor Framework: check more things, and send email if any malicious activity
 - Setup upgradable contract mechanism (EIP 1822)
 - Alpha-release of ESN Testnet
 - Prepare a well documented deployment guide to remove any confusion of anything
 - Merkle Swap UI for tokens transfer from one chain to other chain
 - Engineer the Merkle Swap UX for tokens transfer from one chain to other, make it worldclass, extremely easy for a normal user (will be done later)
 - Implement the Kami Consensus for efficient checkpoint commitment
 - Implement the Kami Consensus for ETH-ES avg rate calculation when NRT released
 - Design the crypto-system for Remote Control of the Kami
 - Implementation of Remote Control the Kami
 - Implement the Gas Price limit changer by Kami
 - Implement Attack resistance by Kami
 - Implement Handover Failure Handling by Kami Consensus
 - Implement the Emergency Fork by Kami Consensus
 - Alpha Release of ESN Mainnet



Previous Plans

The Era Swap Team had identified requirement of Era Swap Network around August 2019 after the deployment of TimeAlly Smart Contract, when community members were confused with gas fee in Ether. Also, there were many cases of transactions pending for hours due to Ethereum overcrowding. We started designing plan for Era Swap Network since then, but it has been evolved over time to better plans due to short-comings noticed. These plans are mentioned here for showcase of research work.

Version 1 : Centralized Operator (18 Nov 2019)

The Version 1 release of ESN plans to fulfill the requirements for political decentralization and transparency in DApps of Era Swap Ecosystem using Blockchain Technology. After acquiring sufficient number of users, a version 2 construction of ESN will be feasible to enable administrative decentralization, such that the Era Swap Ecosystem will be run and managed by the Era Swap Community and will no longer require the operator to support for it's functioning.

Era Swap Network (ESN) Version 1 will be a separate EVM-compatible sidechain attached to Ethereum blockchain as it's parent chain. ESN will achieve security through Plasma Framework along with Proof-of-Authority consensus for faster finality.

The idea behind plasma framework is to avoid high transaction fees and high transaction confirmation times on Ethereum mainnet by instead doing all the ecosystem transactions off-chain and only post a small information to an Ethereum Smart Contract which would represent hash of plenty of ecosystem transactions. Also, to feature movement of Era Swap Tokens from Ethereum blockchain to ESN using cryptographic proof, reverse plasma of Ethereum on ESN will be implemented.

Also, submitting hash of each ESN blocks to ESN Plasma Smart Contract on Ethereum would force ESN to have a block time equal to or more than Ethereum's 15 second time as well as it would be very much costly for operator to post lot of hashes to an Ethereum Smart Contract. This is why, merkle root of hashes of bunch of blocks would instead be submitted to ESN Plasma Smart Contact on Ethereum.



Actors involved in ESN:

1. Block Producer Nodes

Lesser the number of nodes, quicker is the block propagation between block producers which can help quick ecosystem transactions. We find that 7 block producers hosted on different cloud hosting companies and locations reduces the risk of single point of failure of Era Swap Ecosystem and facilitates 100% up-time of DApps. Block Producer Nodes will also be responsible to post the small information to the Blockchain.

2. Block Listener Nodes

Rest of the nodes will be Block Listeners which will sync new blocks produced by the block producer nodes. Plenty of public block listener nodes would be setup in various regions around the world for shorter ping time to the users of Era Swap Ecosystem. Users would submit their Era Swap Ecosystem transactions to one of these public nodes, which would relay them to rest of the Era Swap Network eventually to the block producer nodes which would finalize a new block including the user transaction.

3. Bunch Committers

This will be an instance in the block producers which will watch for new blocks confirmed on ESN and will calculate bunch merkle roots and will submit it to ESN Plasma Smart Contract.

This instance will also post hash of new ethereum blocks to ESN (after about 10 confirmations) for moving assets between both the blockchains.

4. Users

These will be interacting with DApps which would be connected to some public ESN nodes or they can install a block listener node themselves. They can sign and send transactions to the node which they are connected to and then that node will relay their transactions to block producer nodes who would finalize a block including their transaction.

Short-comings

This construction being centralized chain, would be very much dependent on operator, the Era Swap Team and users would have to trust the operator. The responsibility of the up-time and hence, the costs comes directly to the operator. There was no NRT bucket allocated for Era Swap Network, which makes running nodes loss and in future there was a possibility that operator might not be able to run the nodes.



Version 2 PlanB :: Voting-based Validator Nodes (11 Mar 2020)

In Plan-A, entire TimeAlly stakers were not able to participate in decision making process and only the top stakers were, which were some signs of centralizedness. This plan focuses more on large scale participation.

Right to administration, if given to every participant of the network, it will result in inefficiencies due to current infrastructural limitations like ping time which affects decision propagation over the network. Very frequent decisions cannot be made with everyone's confirmation because it is subject to availability of everyone which might not always be guaranteed.

To secure the network without sacrificing efficiency, ESN plans to implement Delegated Proof of Stake consensus (democracy system). Instead of entire nodes population, trusted node representatives are elected by the entire nodes population for a specific tenure. Just like in democracy, there is an election tenure like, for e.g. 4 years, here, the election tenure is 7 days and when it's finished a new set of trusted representatives will be elected.

This implementation also aims to solve problems in current democracy attempted by malicious candidates like voters are bribed to vote, fake promises, vote banks.

Digital Instruments involved:

Ethereum-compatible crypto wallet An ethereum-compatible wallet generates a 160-bit wallet address which looks like 0xC8e1F3B9a0CdFceF9fFd2343B943989A22517b26.

1. Ethereum-compatible crypto wallet

An ethereum-compatible wallet generates a 160-bit wallet address which looks like 0xC8e1F3B9a0CdFceF9fFd2343B943989A22517b26.

2. KYC hash

A KYC id is generated for all approved physical identities (KYCs) by Era Swap Court. Just like one person can have multiple Ethereum-compatible wallets, but only one KYC hash. Users can assign a new wallet address with their existing KYC hash. Smart Contracts related to identities will store user information by KYC hashes instead of wallet addresses.

3. ESN Nodes

Any one can run an Parity Ethereum node above version 2.6 with ESN chain spec to sync with ESN blockchain. If the account associated with this node wins the election to become validator for 1 week, then this node can also produce blocks to get block rewards. It is not required to run an ESN node.



Actors involved:

1. TimeAlly Stakers

These are wallet addresses with some amount of ES staked in a time bound way. These addresses can either vote or become a candidate. TimeAlly Stakers are not required to have KYC done for casting votes to prevent off-chain contact channel to such voters. Votes are cast based on total active stakings not expiring upto 2 months in the wallet address. Voting incentive's are given to ensure maximum participation in voting.

2. Candidates

These are wallet addresses with non-zero stakings with KYC approved by Era Swap Court. Such wallet address can apply to become a Validator (similar to Member of Parliament). To become a candidate, 100 ES nominal fee has to be paid to the smart contract (to prevent just trying for fun cases) and this amount can be revised by Era Swap Court. This fee is sent to luck pool. TimeAlly Stakers will review such wallet addresses and choose to vote from their allowance (proportional to their stakes). There can be maximum 101 candidates. Whenever an election ends (every 7 days), validators are chosen among the candidate list and the candidate list is emptied and open for fresh registrations.

3. Validators

These are the wallet addresses chosen by Era Swap community to maintain ESN. Validators run ESN node software on their computers or on cloud providers like AWS, Azure. Each validator take turns to add a block to the ESN blockchain. The order is according to the order from the election output. In case, the validator is offline, they miss their chance to propose a block and the chance goes to next one. If the validator plays malicious by signing two blocks for same height and relay different ones to different nodes to confuse the network, with consensus of entire network they are suspended as a validator. Everyone would be seeing this on the blockchain and for the next election the malicious validator won't likely receive enough votes. Validators also have to actively sign on bunch proposals. In initial phase of ESN, there will be 3 validators and it will increase by 2 every NRT month upto 11. This is to reduce costs for the operator in initial phase for supporting ESN. Max validators are 11 to balance the delay in block propagation to ensure 4 sec block time feasible. Though in future, this can be changed with a hard fork if required.

4. Bunch Submitter's

Bunches of ESN blocks merklize to a transaction bunch root and receipts bunch root and bunch depth. These two values need to be communicated to the Plasma Smart Contract on Ethereum mainnet. To remove responsibility of a centralized authority to submit these values to the Ethereum mainnet, this implementation allows any one to do a bunch submission with 66% signatures. This causes gas fee in ETH to submitter, so no one would want to do it and it would be only done by those who wants withdrawal of ES. This is solved by giving Bunch Submission Reward to anyone who submits a 66% signed bunch proposal to the Plasma Smart Contract.



5. Era Swap Users

To use DApps of Era Swap Ecosystem, it is not required to run an ESN node (like Actor #1). One can connect their DApp to any of the public ESN nodes. Public ESN nodes act like a server which find requested information in their blockchain storage and send to DApps on smartphones or laptops to display on their screen. Users can anytime switch between multiple peers public ESN nodes/servers from their DApp settings. This is Web 3.0. Different servers can have different response time depending on the capacity of the node as well as internet connection. Some fast public ESN nodes will be arranged by Era Swap initial supporters for easy Era Swap adoption for new users.

6. Era Swap Users (Not-yet KYC approved)

Since, Not-yet KYC approved users can misuse ESN computing resources, newly joined Era Swap Users need to complete their KYC to unlock multiple features in Ecosystem. Also such users cannot deploy a Smart Contract in ESN for security purpose. We are also exploring a possibility of restricting any Not-yet KYC address to transact on ESN unless their KYC is approved and their KYC can be done by introducer whose KYC already needs to be done. This configuration can be changed with consensus from 66% validators.

Node Validator Rewards

The Node Validator NRT will be divided into following parts by the Smart Contract:

1. Voter Reward

20% NV NRT (by Validator Contract on ESN) This reward is given to incentivize TimeAlly Stakers to come online each week and cast their vote and get reward. This reward increases number of votes, hence making the election more democratic.

2. Block Finaliser Reward

50% NV NRT (by Block Reward Contract on ESN) When a block is finalised, the author of the block gets Block Finaliser Reward. After NRT is released, 70% of the funds from Node Validator NRT (from whitepaper) will be distributed proportionally to the holders of Block Finaliser Reward.

3. Bunch Submitter Reward

15% NV NRT (by Plasma Contract on Ethereum mainnet) When a bunch which is signed by at least 66% of signers, it can be submitted to Plasma Contract on Ethereum mainnet by anyone and this costs gas fee in ETH. As an incentive, Bunch Submitter Reward is awarded to the submitter. After NRT is released for the month, the holders of Bunch Submitter Reward can redeem it for 150 ES for each reward. Remaining ES are burned by sending to burn address (0xbbb...bbb). In case the NRT released is less than the total bounty to be given (NRT decreases every year) then ES will be proportionally distributed between Bunch Submitter Reward holders. The reward amount can be revised in future with 66% consensus from the validators.



4. Bunch Signer Reward

15% NV NRT (by Plasma Contract on Ethereum mainnet) For a bunch proposal to be accepted by plasma smart contract, 66% of validator signatures need to be present on the proposal. To decrease the waiting time between the proposal generation and achievement of 66% of signatures on the proposal, the availability of Bunch Signers to sign on the proposal is incentivized by awarding a Bunch Signer Reward to the signers of submitted bunch proposal by Plasma Smart Contract. After NRT is released for the month, the holders of Bunch Signer Reward can redeem it for 150 ES for each reward.

Remaining ES are burned by sending to burn address (0xbbb...bbb). In case the NRT released is less than the total bounty to be given (NRT decreases every year) then ES will be proportionally distributed between Bunch Submitter Reward holders. The reward amount can be revised in future with 66% consensus from the validators.

5. Validator Linking Reward

5% NV NRT (by Plasma Contract on Ethereum Mainnet) Validators are elected on ESN but Plasma Smart Contract on Ethereum chain does not about this. It needs to be updated with latest validators. This will be done by giving receipt proof for the Initiate Change event emitted on ESN.

Short-Comings

In this plan, there are few nodes but public doesn't get opportunity to run nodes for actually administrating the network. Era Swap Network would be more decentralized if public with less stakes can also administer the network (as much as their stakes). This led us to design the current plan as it is.



Conclusion

Era Swap Network is an EVM-compatible sidechain attached to the Ethereum blockchain through Plasma Framework. This allows off-chain processing of Era Swap Ecosystem transactions and posting only the hash of the bunch to Ethereum. This greatly reduces the high network fee and confirmation time issues faced by the current Era Swap Ecosystem DApps deployed on Ethereum. Also, having a separate EVM-compatible blockchain tailored to Era Swap Ecosystem improves the user experience to a higher extent. Since by design, Plasma Framework makes the Era Swap Network as secure as the Ethereum Network, user's funds on the network would be secure as well.

Era Swap Network will help scale DApps of Era Swap Ecosystem to onboard the increasing numbers of users.

ESN Guidance

What is Era Swap Network?

Era Swap Network (ESN) is a PoS-based side-blockchain on top of Ethereum blockchain using the Plasma Framework. To achieve the necessary consent on the single state of the network among distributed parties within the network, Era Swap Network (ESN) uses Proof of Stake (PoS) Consensus Mechanism - It is a fault-tolerant mechanism used in Blockchain systems.

What are the benefits of Era Swap Network?

Era Swap Network will offer Scalability, Speed and Low-Cost Transactions to users of Era Swap Ecosystem. Era Swap also offers the benefit of trustless security for users by remaining on an alternative chain. ESN testnet could do upto 500 transactions in every 5 seconds at 98% lower costs as compared with Ethereum Blockchain.

What is Core Strength of Era Swap Network?

The core strength of ESN comes from its Proof of Stakes Consensus Protocol (PoS CP) via TimeAlly ILT Smart Contract staking and Node Validators. The consensus permits Blockchain to function without being dependent on a single actor, as different participants in the network, offer their consent which makes Era Swap network.



Who can participate in ESN?

Anybody can participate to accumulate ES in long term to safeguard the future, and have the control over their growth. The sole purpose and reason for TimeAlly 1LT holders should be to participate, not to earn profits, but to protect the interest of ESN and their own long term Era Swap Stakings.

Why Stakers should participate in ESN PoS CP?

The real motivation of TimeAlly Holders is to focus on Staking so they can withstand the inflation of the Era Swap and secure Era Swap network instead of assuming profit from the participation. The value of Era Swap will decrease and eventually will become worthless if the Era Swap Holders fails to stake and participate in Era Swap Network.

How can I participate in ESN PoS CP?

For ESN PoS CP, a New User can stake Era Swap in TimeAlly's 1 Life Time Smart Contract. To participate in ESN PoS CP, Existing users can Sign an accord Signature on Era Swap Life / Era Swap KYC DApp for ESN PoS CP via TimeAlly 1LT Staking to migrate towards Era Swap Network

What makes ESN Successful? / Why choose ESN?

Era Swap Network (ESN) is a decentralized Blockchain Network, and the growth of ESN is solely dependent on the community and doesn't depend on the Promoters/ Developers. In ESN, a person can create liquidity with their own efforts and solely responsible for the rewards generation. So, the efforts of Era Swap Community makes ESN successful.

How a Participant's incentives will be secured in ESN?

A participant incentive is secured in ESN by his / her stakings in ESN PoS through TimeAlly 1LT Smart Contract. All the incentives to stakers are distributed via Smart Contract to participant of ESN.

Who is responsible for Participant's token liquidity / profit / growth?

In ESN there are multiple opportunity available to accumulate ES and it increases its value with individual efforts and responsibility by community members and participants. This contribution by everyone will determine their success whether or not the enterprise is successful.

How ESN PoS CP participant is protected against inflation?

ESN Newly released token distribution is designed to take care of network and withstand inflation, and also gives additional power on Swappers Wall to incentivize new ES Ecosystem participants. Also stakers receive TimeAlly 1LT Staking Rewards which are designed to enable the incentive mechanism for stakers who can participate to secure Era Swap Network



Is there any risk of losing ES Tokens in TimeAlly?

The TimeAlly Holder is not exposed to any risk of losing their Era Swap which are staked, but only the risk that he or she will not earn TimeAlly 1LT rewards. If the holder is abstained from TimeAlly 1LT staking they both way forgo Rewards and suffer from Era Swap Network Inflation.

ESN Rewards Guidance

Who will be receiving ESN Rewards and how it will be distributed?

All ESN PoS CP Stakers will stake ES in TimeAlly 1LT Smart Contract for rewards. The percentages of earned rewards and Validation Rights of holders are received by Blokcees in Era Swap Network and their rewards are distributed further to TimeAlly 1 Life Time holders via Smart Contract. This percentage of reward distribution in ESN will be done by smart contracts.

How monthly ESN rewards are distributed?

The ESN TimeAlly 1LT rewards earned by the Blokcee are then sent to Era Swap Network controlled distribution wallet. At their discretion, the TimeAlly 1LT holder shall separately submit request transaction to the Era Swap Network controlled distribution wallet and their portion of the earned TimeAlly 1LT rewards will be allocated to the wallet initially Delegated from.

Can anyone else utilize rewards of other users in ESN?

The participants on Era Swap Network do not utilize rewards for the benefit of anyone other than themselves. They have the complete control over their funds and rewards, and are solely responsible to withdraw rewards. All the rewards are allocated and distributed in decentralized Era Swap token on ESN via Smart Contracts, based on their efforts and eligibility.

Does participating in ESN PoS CP affects ES Tokens in TimeAlly 1LT Staking?

TimeAlly 1LT holder's tokens are holded safely in TimeAlly Vault. TimeAlly holders solely transfer their rights to Blokcee, in good faith, and they can do this delegation every 30 days and 10 hrs. So there is no affect in the count of staked ES of holders in TimeAlly Vault, unless penalized for wrong doing or malicious activity.



ESN Miner's Guidance

How to become Era Swap Miner?

The MINERS in ESN runs two software called "Blokcee" and "Kami". The miners in the Era Swap blockchain network needs to stake Era Swap (ES) with TimeAlly 1 Life Time Smart Contract to get allowed for validating new transaction blocks in ESN. ESN PoS Participants needs to stake Era Swap TimeAlly which allows them to validate new transaction blocks in ESN.

What are the responsibilities of Miner?

The Miner's primary responsibility is to run the software to validate the new transactions and earn rewards on successful validations. The returns are completely based on the external factors like market forces of the Era Swap and do not depend on the efforts of the Miner.

How Miners are rewarded in ESN?

In ESN, the Miners have delegated the Rights to validate the new transactions blocks and earn rewards in Era Swap Network, it helps To enable and drives participation in developing and validating new transaction blocks on the network to make it more secure. This also helps to attract new developers (block finilizer, etc) and users in the ESN. TimeAlly 1 Life Time smart contract designed to reward the stakers who supports the growth and sustainability of ESN.

Does Miner performance affects staking value of ES?

The returns are completely based on the external factors like market forces and isn't depended on the efforts of the Miner.

Is Miner responsible for creating new ES Tokens?

The Miner is responsible to maintain the distributed Ledger and they can only interact with decentralized Era Swap Network with decentralized Era Swap token which was previously issued, bought, or sold.

Does Miner provide money transmission service?

Miner would not provide any money transmission service because they take no part in transferring Era Swap. A TimeAlly 1 Life Time holder delegates Validation rights to Blokcee staking Node. The Blokcee then pools the validation rights and validates on Era Swap Network.

In dedicated Proof of Stake (DPoS), Does stake holder has to transfer his asset to Blokcee?

In ESN, the stake holder delegates Blokcee, the Rights to validate the new transactions blocks and earn rewards in Era Swap Network, which helps to enable and drives participation in developing and validating new transaction blocks on the network to make it more secure.



Statuary Warning

Digital Assets are extremely high-risk, speculative products. Participants in Era Swap Ecosystem (ESE) should be aware of the risks involved and fully consider before participating in Digital assets whether it's appropriate for you. Users should only participate if you are an experienced investor with sophisticated knowledge of financial markets and you fully understand the risks associated with digital assets. The Users are strongly advise to take independent professional advice before making any investment or participating in any way. Users should check what rules and protections apply to your respective jurisdictions before investing or participating in any way. The Developers or Promoters will not compensate you for any losses from trading, investment or participating in any way as it relies completely on Market Forces. Users should read whitepaper carefully before participating and consider whether these products or services are right for you. Era Swap Token is subject to Market Risk. Please read Whitepaper, Terms & Conditions and policies of Era Swap Life and all the utility platforms of Era Swap Ecosystem before participating.

Privacy Policy

The profile of all the members on the platform shall be explicitly confidential and not disclosed to any other member of the platform unless express consent is sought by the member. The KYC is mandatory in ESN to mitigate the risk of scammers who Perform Fake KYC & Attempt to Create Multiple Wallets for conducting any malicious activity for accumulating Tokens, Trading, or earning any rewards. Data will be held in a distributed fashion. This is important to avoid the user data breaches that befall centralized databases. The use of KYC (know your customer) is always a balance between the freedom of anonymous use of Digital assets and the ability to interact with other businesses, banking institutions, and all countries. We have made the decision to use KYC on all purchase of tokens, distribution of AirDrop & Bounty for the good and long-term success of the ERA SWAP community.



Era Swap Network

Terms of Service

Last Updated: 10/07/2020

Era Swap Foundation OU

The Era Swap Foundation OU is a group of developers and technology professionals who are passionate about the potential of decentralized applications. It does not own or lead the Era Swap Network ("Era Swap Network"), but rather supports and develops the free, open-source & decentralized applications.

Era Swap Foundation OU makes no warranties or representations, express or implied, on products offered through the platform. It accepts no liability for any damages or losses, however caused, in connection with the use of, or on the reliance of decentralized application or related services. The Era Swap Foundation OU has no role in the operation of markets created on Era Swap Ecosystem (Era Swap ecosystem means here "Era Swap Network" "Era Swap utility Platforms" "Era Swap token"), and does not have the ability to spend funds that are held in escrow on-contract, or does not control how markets resolve or are created, does not approve or reject trades or other transactions on the network, and do not have the ability to modify, cancel, undo, or interact with orders on the network. The Era Swap Foundation OU has no power to censor, restrict, or curate markets, orders, trades, positions or resolutions on the Era Swap Ecosystem. Era Swap Foundation OU is not a bank or financial institution and does not provide investment or financial advice or consulting services to users.

Era Swap DAO

Era Swap Decentralized Autonomous Organization (DAO) is governed by a set of software rules enacted by Smart Contracts on Blockchain (refer Era Swap white Paper https://eraswaptoken.io/pdf/eraswap_whitepaper.pdf). In Era Swap DAO there is no centralized legal entity and no employment contracts. All the stakeholders of the Era Swap DAO are aligned & designed by set rules for Era Swap rewards distribution. Era Swap DAOs use Consensus mechanisms to align the interests of the organization with the interests of its stakeholder which is done by voting mechanism. Era Swap Network Proof of Stake Consensus Protocol is governed by Time Ally Smart Contract (refer to more details <https://timeally.io/>). In no way are the developers of, or contributors to, the Website, Mobile applications or any applications responsible for the actions, decisions, or other behaviour has taken or not taken by the user in reliance upon the Website or any applications of Era Swap Ecosystem. Users not authorized and nor should they rely on the Website or any applications of Era Swap Ecosystem for any legal advice, business advice, or advice of any kind. Users should act at their own risk in reliance on the contents of the Website or any applications.

TERMS OF ERA SWAP NETWORK FOR USERS TO AGREE & ACKNOWLEDGE

- To achieve the necessary consent on the single state of the network among distributed parties within the network, Era Swap Network (ESN) uses Proof of Stake (PoS) Consensus Mechanism - It is a fault-tolerant mechanism used in Blockchain systems. The consensus permits Blockchain to function without being dependent on a single actor as different participants in the network offer their consent which makes Era Swap network.
- The sole purpose and reason for Time Ally holders should be to participate not just to earn profits but to protect the interest of the ESN and their own long term Era Swap Stakings.
- Era Swap Network (ESN) is a decentralized Blockchain Network, and the growth of ESN is solely dependent on the community and doesn't depend on the Promoters/Developers. In ESN, a person can create liquidity with their own efforts and solely responsible for the rewards generation.
- Securities law protection is not applicable to participants/stakers here because in ESN they can exercise control over their funds and ES generating activity with their own efforts that will determine their success whether or not the enterprise is successful.
- The Era Swap holders or purchaser should not assume presume profit on their stakings or holding ES as ES value completely rely upon the market forces due to its decentralized structure in a Peer-to-Peer Network, and is not dependent on the Promoters/Developers efforts. Every participant or purchaser of Era Swap should rely completely upon external Market forces dictating the value of Era Swap instead of relying on Promoters/Developers to enhance the value of Era Swap.
- Node Validators of ESN who run software are called "Blokcee". The Node validators in the Era Swap blockchain network needs to stake Era Swap (ES) with TimeAlly or get delegation from other staker to get allowed for validating new transaction blocks in ESN. Era Swap Network implements Proof of Stake Consensus Protocol (PoSCP), which will have a maximum supply of 9,100,000,000 ES, and every time a new block is added to the blockchain, new ES tokens are released in New Released Token (NRT) Supply as per the Smart Contract. In ESN, a rewarding system which enables and drives more participation to develop and validate new transaction blocks on the network to make it more secure. This also helps to attract new developers and users in the ESN. In ESN, the Node Validators have delegated the Rights to validate the new transactions blocks and earn rewards in Era Swap Network
- The Node Validators do not participate in transferring Era Swap and thus are not involved in any kind of services such as money transmission. In ESN, The node validators are delegated the validators rights which allows the node validators to validate new transaction blocks on ESN. The ESN Smart contract distribution wallet manages rewards which are earned by the node Validators for validating new transaction blocks on ESN. The TimeAlly holder as per the consent have the option to submit request to the ESN smart contract distribution wallet to distribute portion of rewards to be sent directly to the delegated wallet. The rewards earned by node validators are received in a smart contract which allow delegator to pull back their rewards
- If the node validators act maliciously there is penalty of stakes slashing. In such case, it is possible that the TimeAlly holder may lose their era swap tokens. In ESN, the node validators just post the principal and there is no risk of financial loss except of delegator burning which discards the involvement of investment of money element.
- The Node Validators are responsible to maintain the distributed ledger and can only interact using decentralized Era Swap Network only with its decentralized ES token which was previously issued, bought, or sold.
- The validation right is transferred to the Node Validators but not to Era Swap Token of TimeAlly in ESN. The Node Validators are incentivized for participating in good faith which is designed in the Era Swap network (ESN). The Node Validators takes the risk of forfeiting the opportunity to earn rewards and losing the Era Swap token for acting maliciously like double-spend attack or nodes being offline due to negligence or collective burning. All the participants are impacted highly by the inflation of Era Swap however staking can help the participants to earn the reward. Time Ally rewards on staking with % ages from 25% - 27% on an annual mode. ESN incentivizes TimeAlly Holders or all Participants to Stake motivating participating in securing Era Swap Network new transaction blocks.
- If a TimeAlly Staker chooses not to participate in the ESN POC CP (Era Swap Network Proof of Concept Consensus Protocol), then their reward earnings will be diluted as there will be inflation due to other's participation. TimeAlly Rewards are distributed as per the smart contract to all the other participants of Era Swap Network. However, as the percentages of Era Swap TimeAlly holders participating in TimeAlly staking increases then the chances to return profit are lesser. The TimeAlly holders will retain Era Swap with on-going TimeAlly staking against Era Swap network inflation losses.
- The primary purpose of every participant of ESN is to further the interest as stakeholders in Era Swap Network thus the TimeAlly Era Swap holder can choose to delegate to Node Validators for validating new transactions block on Era Swap Network. The Node Validators primary responsibility is to run the software to validate new transactions and earn rewards on successful validations. The returns are completely based on the external factors like market forces of the Era Swap and do not depend on the efforts of the Node Validators.
- TimeAlly Stakeholder will be temporarily choosing to delegate the rights of Era Swap to Node Validators for the sole purpose of staking. The Time Ally stakeholder will have Smart Contract with Node Validators that will allow termination of the relationships at any time.
- Era Swap is not an Exchange that converts virtual currencies into real currencies/ funds/ or any substitute of currency. Era Swap ecosystem is a platform for Peer-to-Peer decentralized utility platforms which is powered by Era Swap Utility Token on Era Swap Blockchain Network.
- All the participants on Era Swap do not utilize rewards for the benefit of anyone other than themselves. The Promoter/Developer of Era Swap does not control or hold the Rewards. All the rewards are allocated & distributed as per decentralized smart contract to the participants of the Network based on the Activity, Eligibility & Progress. The users are solely responsible to withdraw rewards.
- Any Participants/ stakeholders lacking the skill or the experience required to exercise control should not participate and shall take complete responsibility for any losses due to inappropriate Negligence/Lack of understanding. The participants should Read & Refer to all the Terms & Conditions/ FAQs/ Tutorial Video & Audio Links/ and other process guides thoroughly before participating.



Terms of Era Swap Token for Users to Agree & Acknowledge

- User agrees & acknowledges that Promoters/ Developers or any thirty party service providers shall not be responsible for any failures/ disruptions/ errors/ distortions/ delays/ or losses that occurred due to volatility in prices as it purely depended on External Market Forces.
- User agrees & acknowledges that Promoters/ Developers or any thirty party service providers shall not be responsible for the failure of hardware/ software/ and internet connections, an event of technical, and other limitations occurred while using the Era Swap ecosystem.
- User agrees & acknowledges that Promoters/ Developers or any thirty party service providers shall not be responsible for the market rate information made available on various websites or sources may Differ from the prevailing market rates and markets are highly volatile due to which prices can fluctuate significantly which is subject to change from time to time.
- User agrees & acknowledges that they have fully understood the terms & conditions of the Era Swap ecosystem and are fully aware of their financial circumstances and the risk tolerance before participating in the Era Swap ecosystem.
- User agrees & acknowledges that Promoters/ Developers or any thirty party service providers shall not be responsible as there might be Considerable loss which may incur while using Era Swap Ecosystem due to High volatile nature & extremely dependent on External Market forces.
- The User should carefully review the smart contracts, website content, terms & privacy policies of platforms within Era Swap Ecosystem to familiarize as the users are responsible for their exchange of services..
- The User should confirm that the decision for participating in prediction or events, claiming or undertaking any transaction on the Era Swap ecosystem is taken with complete knowledge & ownership is with the user itself.
- Era Swap Ecosystem does not give any guaranteed returns in FIAT or crypto. Please read Era Swap Ecosystem platforms website content & smart contracts and do your research before proceeding.
- The User should understand and accept complete responsibility & liability for any damages or losses, however, caused, in connection with Era Swap Ecosystem, use of, or on the reliance of Era Swap Ecosystem.
- Era Swap Foundation OU doesn't guarantee any Fiat or Crypto because Era Swap doesn't control any Fiat or any other cryptocurrency. Era Swap token (ES) can only be used in the Eco System. ES cannot be used outside the Era swap Ecosystem.
- Phishing websites often go hand-in-hand with phishing emails. Phishing emails can link to a replica website or mobile application designed to steal login credentials or prompt one to install malware.
- Do not install software or log in to a website unless you are 100% sure it isn't a fake one. Phishing websites may also appear as sponsored results on search engines or in-app marketplaces used by mobile devices. Be wary that you aren't downloading a fake app or clicking a sponsored link to a fake website. It is completely on User's risk and the user is only liable for any such activity.
- The creators of Era Swap Ecosystem have the right to upgrade the software as per requirement time to time, enhance the features for better users experience, bring in better suitable and innovative Technology and Blockchain versions, perform changes and improvisation in case of unforeseen technology glitch

User Rules & Regulations

All the Users participating, will be participating or already using Era Swap Ecosystem (Era Swap ecosystem means here "Era Swap Network" "Era Swap utility Platforms" "Era Swap token") have agreed not to

- Perform Fake KYC & Attempt to Create Multiple Wallets for conducting any malicious activity for accumulating Tokens, Trading, or earning any rewards.
- Attack or attempt to interfere the "Era Swap Ecosystem" by introducing any Virus such as Worms, Trojan horses, Malicious & Technologically harmful tools (using any device, software or routine)/ programs/ engage in any malicious activity that restricts or inhibits internal or external users for using Era Swap Ecosystem or to impersonate or an attempt to impersonate Era Swap or the Team users or any other Users of Era Swap ecosystem.
- Violate any applicable country or legislative laws or regulations either origin or location-based, also any users or minors by exposing to inappropriate content or seeking or forcing highly confidential information or personal information on Era Swap Ecosystem.
- To Copy content or any advertising or promotional material of Era Swap ecosystem or Transmit any 'junk mail', 'chain letter' or 'spam' or any other similar solicitation or intend to gain unauthorized access, damage or disrupt any parts like Wallets, Nodes or apps connected to the Era Ecosystem.

Users Agrees to

- Users have ascertained that they have reached the majority age and possess the capacity to form a binding contract and have the full capacity to accept the Terms mentioned on the site & in this document, use any Services and conduct any transactions on the Website.
- Users agree that they have provided Platform with accurate, true and complete information about them
- Users agree to access the website and all activities being conducted thereon are and will be in full compliance with all relevant laws, regulations, regulatory documents, and various policies of the utility Platforms. In particular, any Digital assets users bring on to the Website are legally obtained by you and are not derived from and will not be used for any criminal, fraudulent, terrorism or money laundering activity. All members will be required to comply with the Know Your Customer (KYC), Anti-Money Laundering (AML) and Combating Financing of Terrorism (CFT) norms concerning the global standards.
- Users agree & warrants that all the digital assets (of any types) use to trade on the Website were legally obtained and are legally owned by them or they are validly authorized to carry out any transactions using such digital assets.
- Users agree & warrant that they have and will continue to abide by any relevant laws or regulations in their respective jurisdiction, including but not limited to reporting any trading activities or profits for taxation purposes, if applicable.
- Users agree & warrant that they have not been suspended or removed from any other exchanges (including digital assets exchange or other financial trading platforms) for any reason.
- Users agree & warrant that they are aware, sourced and received all necessary independent legal and financial advice before using any Services and have made an independent judgment irrespective of any advertisements published on the platforms in their decision to enter into any transaction.
- Users agree that their access to the Era Swap Ecosystem Website or Services, Users have not used or will not use any device, software or system that alters your IP address from that of your physical location.
- All users using services agree & warrant that they are not a national, citizen, permanent resident or resident of a prohibited jurisdiction. All members represent and warrant that if they are national, citizen, permanent resident or resident of the country or region designated as a prohibited jurisdiction, in line with the guidance from international monitoring bodies such as the Financial Action Task Force (FATF), the person concerned shall not use or will not have access to the Service. Users will not use the Service while staying in the prohibited jurisdiction.

The list below states the prohibited jurisdictions: (subject to change as guidelines)

- o Yemen
- o Sri Lanka
- o Ethiopia
- o Syria
- o Trinidad and Tobago
- o Tunisia
- o Pakistan
- o Serbia
- o Bahamas
- o Botswana
- o Ghana
- o Cambodia
- o Iran
- o North Korea



Release and Indemnification

Users agree to defend, indemnify, and hold harmless the Developers, Promoters, its affiliates, licensors, and service providers, and its and their respective officers, directors, employees, contractors, agents, licensors, suppliers, successors, and assigns from and against any third-party claims, liabilities, damages, judgments, awards, losses, costs, expenses, or fees (including reasonable attorneys' fees) arising out of or relating to:

- I. Users violation of these Terms of Use;
- II. Users use of the Era Swap Ecosystem, including use that results in any Transactions using any token transactions & token lending protocols;
- III. any User Submissions made by them; or Users violation of any other party's rights or applicable law.
- IV. If Users have a dispute with any counterparty to any Transaction enter into through Era Swap Ecosystem, Users release the Developers, Promoters, its affiliates, and service providers, and each of their respective officers, directors, agents, employees, and representatives from any claims, demands, and damages (actual, consequential, or otherwise) of every kind and nature arising out of or connected with such disputes.

Transaction Maintenance

Users are solely responsible for maintaining your private keys and monitoring the Transactions on the underlying protocols. The developers or Promoters are not responsible for User's failure to adequately monitor their Transactions and Loans, which may result in their failure to make timely payments and the loss of collateral. The Developers/Promoters are also not responsible for any failures on the underlying protocols or the Ethereum blockchain, including, but not limited to, network failures, inaccurate price feeds, coding errors or hacking attempts, which may result in User's losing any or all of the tokens that are part of the Transactions users have entered through Era Swap Ecosystem. The Developers/Promoters have no obligation to send User's any notifications, including reminders regarding payment or collateral status. Users should not rely on any such notifications, if any, and your reliance on any such communications as it at Users own risk.

Use of Information Provided by Users

Users understand, represent and agree that any User Submission is submitted voluntarily and is not confidential or proprietary and that your User Submission does not establish any relationship between Users and Developers. User grant the Developers and its sub-licensees a worldwide, royalty-free, non-exclusive, transferable, perpetual and irrevocable license to use, commercialize and implement the ideas contained in, distribute, transmit, reproduce, modify, publish, translate, publicly perform and display and create derivative works of User Submissions, except as otherwise prohibited by applicable law or these Terms of Use. Users waive any right to compensation of any type for User Submissions. User represent and warrant that Developers have all of the rights necessary to grant the rights in this Section and that the use of User Submissions by Developers does not violate any law.

Taxes

It is Users responsibility to determine what, if any, taxes apply to the Peer to Peer Exchange of Services users for which Users have submitted Peer to Peer Exchange of Services details via the Services, and it is Users responsibility to report and remit the correct tax to the appropriate tax authority. Users agree that the Era Swap Network are not responsible for determining whether taxes apply to blockchain Peer to Peer Exchange of Services or for collecting, reporting, withholding, or remitting any taxes arising from any Peer to Peer Exchange of Services on Era Swap ecosystem

No Right to Cancel and/or Reverse

Era Swap ecosystem Peer to Peer Exchange of Services: If users use a Service to which Era Swap (ES) is transacted, Users will not be able to change their mind once users have confirmed that you wish to proceed with the Service or Peer to Peer Exchange of Services

Suspension or Termination of Service

Era Swap ecosystem may suspend or terminate Users access to the Services in its sole discretion, immediately and without prior notice, and delete or deactivate users Era Swap Network account and all related information and files in such without cost to the user, including, for instance, if user breach any term of this Agreement. In the event of termination, users access to the funds in the user account will require users access to the Ethereum via the command line API or third party tool, and will require users to have access to the backup of their Account data including their Account and Private Keys.

Nature of Beta

Era Swap ecosystem may offer additions to Sites and Services as part of a beta test phase. All or portions of the Sites and Services included in this test phase may not function correctly, or may contain errors. Era Swap is not obligated to correct, nor is it responsible for, errors or the effects of such errors while the beta test phases of these Sites and Services are active. Further, users acknowledge that Era Swap ecosystem has no express or implied obligation to announce or make available any particular features of the beta Sites and Services in the future. Should these Sites and Services launch after the beta phase, it may have features or functionality that are different than those found in the beta version herein.

Registration, Account and Communication Preferences

In order to access and use certain areas or features of the Sites and Services, Users will need to register for a Era Swap account. By creating an account, you agree to (a) provide accurate, current and complete account information about yourself as necessary, (b) maintain and promptly update from time to time as necessary your account information, (c) maintain the security of your password and accept all risks of unauthorized access to your account and the information you provide to us and (d) immediately notify Era Swap if discover or otherwise suspect any security breaches related to the Sites, Services, or your account.

Payment Obligations

There will subscription for Users to access certain parts of Services on Era Swap ecosystem. By agreeing to these Terms, users accept to pay for these subscription costs as mentioned clearly while joining Era Swap ecosystem. The Payment must be made by users with approved KYC via accepted valid cryptocurrency or Era Swap token. The users authorize Era Swap to make necessary charges against such payments or subscription - automatic, recurring, or individual-as part of providing the Services. Users may stop or cancel these payments by downgrading or stopping services through users' member settings or rules mentioned in terms. Users acknowledge that they are completely responsible for any applicable state, federal, or other taxes as well as any fees associated with payment subscription to Services unless otherwise mentioned.

Trademarks

The Era Swap ecosystem logo and any other Era Swap ecosystem service names, logos or slogans that may appear on the Sites or Services are trademarks of Era Swap ecosystem and may not be copied, imitated or used, in whole or in part, without our prior written permission. Users may not use metatags or hidden text or utilizing Era Swap ecosystem platforms name or any other name, trademark or service name of Era Swap ecosystem without our prior written permission. The format (includes all the features, buttons, scripts, etc) of the Sites and Services of Era Swap ecosystem may not be copied, imitated or used, in whole or in part, without our prior written permission.

Partners / Contractors

All the Partners /Contractors of Era Swap DAO can further outsource the work to any sub contractor to increase the bandwidth & efficiency of the services. All the Partners/ Contractors will essentially accept Era Swap Stake & Era Swap Token for Payment for these services.

Third-Party Services

The Era Swap ecosystem Site may contain links to other websites ("Linked Sites"). The Linked Sites are not under the control of Era Swap Foundation OU and it is not responsible for the contents of any Linked Site, including without limitation to any form of link existed in the Linked Site, or any kind of changes or any kind of updates to the users using Linked Site. When Users clicks on any links to the Linked Site, The developers may not warn Users that they have left the Era Swap ecosystem and are subject to the terms and conditions and Privacy policies of another website or destination. Era Swap ecosystem is providing these links to you only as a convenience, and the inclusion of any link does not imply endorsement by Era Swap Foundation OU of the site or any association with its operators. User uses the Linked Sites their own risk. When User leaves the Era Swap Network, our Terms and policies no longer govern. Users should review applicable terms and policies, including privacy and data gathering practices, of the Linked Sites, and should make whatever investigation they feel necessary or appropriate before proceeding with any transaction with any third party.

Certain services made available via the Era Swap ecosystem are delivered by third party sites and organizations. The Developers or Promoters, therefore, is not liable or otherwise responsible for the Transactions, damages, or liabilities arising out of use of any Era Swap Network Platform or Transactions entered into (or attempted to be entered into). Users agree that Developer's or Promoters have no fiduciary duty to you and no liability in connection with and are not responsible for any liabilities, claims, damages, costs and/or expenses, including attorneys' fees, incurred in connection with your taking or not taking any action based upon any information provided by anyone.

Third Party Content

There may be display of content from third parties through the Sites and Services (collectively, "Third-Party Content"). Era Swap do not control, endorse or adopt any Third-Party Content, and make no representations or warranties of any kind regarding such Third-Party Content, including, without limitation, regarding its accuracy or completeness. Users acknowledge and agree that their interactions with third parties providing Third Party Content are solely between users and such third parties, and that Era Swap is not responsible or liable in any manner for such interactions or Third-Party Content.

Hyperlinks

Users are not allowed to create a text hyperlink to the Sites for non-commercial purposes, link which portray Era Swap ecosystem or any of products or services in a false, misleading, defamatory, contain any adult or illegal material or any material that is offensive, harassing or otherwise objectionable. The users may be revoked at any time without any notice

Disclaimer

THE Era Swap ecosystem platforms are provided to users "AS IS", with no warranty, express or implied. The Developers or Promoters of Era Swap ecosystem shall not be liable for any claim, damages or other liability, whether in an action of contract, tort or otherwise, arising from, out of or in connection with the software or the use or other dealings in the software

Social Media



<https://t.me/eraswap>



<https://www.facebook.com/eraswap/>



<https://www.linkedin.com/company/eraswap/>



<https://twitter.com/EraSwapTech>



<https://www.instagram.com/eraswap/>



<https://medium.com/@eraswap>



<https://www.youtube.com/channel/UCGCP4f5DF1W6sbCjS6y3T1g>



<https://bitcointalk.org/index.php?topic=5025979.msg45502457>



<https://www.reddit.com/user/EraSwap>



<https://mix.com/eraswap>



<https://eraswap.tumblr.com/>



<https://www.pinterest.com/eraswap/>