The Next Chapter of Web3

Introduction

Vitreus, an innovator in emerging technologies, is ushering in a new era aligned with the Web3 ethos. Vitreus emphasizes decentralization, openness, and community–driven growth, aiming to redefine decentralized finance (DeFi) and extend blockchain's potential to various industries. Envisioning a digital realm powered by collective community wisdom, Vitreus and its Decentralized Physical Infrastructure (DePIN) model invites user participation, forming a secure, decentralized foundation for blockchain applications.

AssetHub
Ecosystem Asset Manager

BridgeHub
Off-Chain Communication

DeFiHub
Ecosystem DeFiHub

StorageHub
Decentralized Storage Gateway

Real-World Business 1

Relay-Chain
Governance, Consensus, XCMP

ComputeHub
Compute Network

Real-World Business 2

ParaThread Slot 1-5

Real-World Business N

Parachain Slot 1

Parachain Slot 2

Parachain Slot N
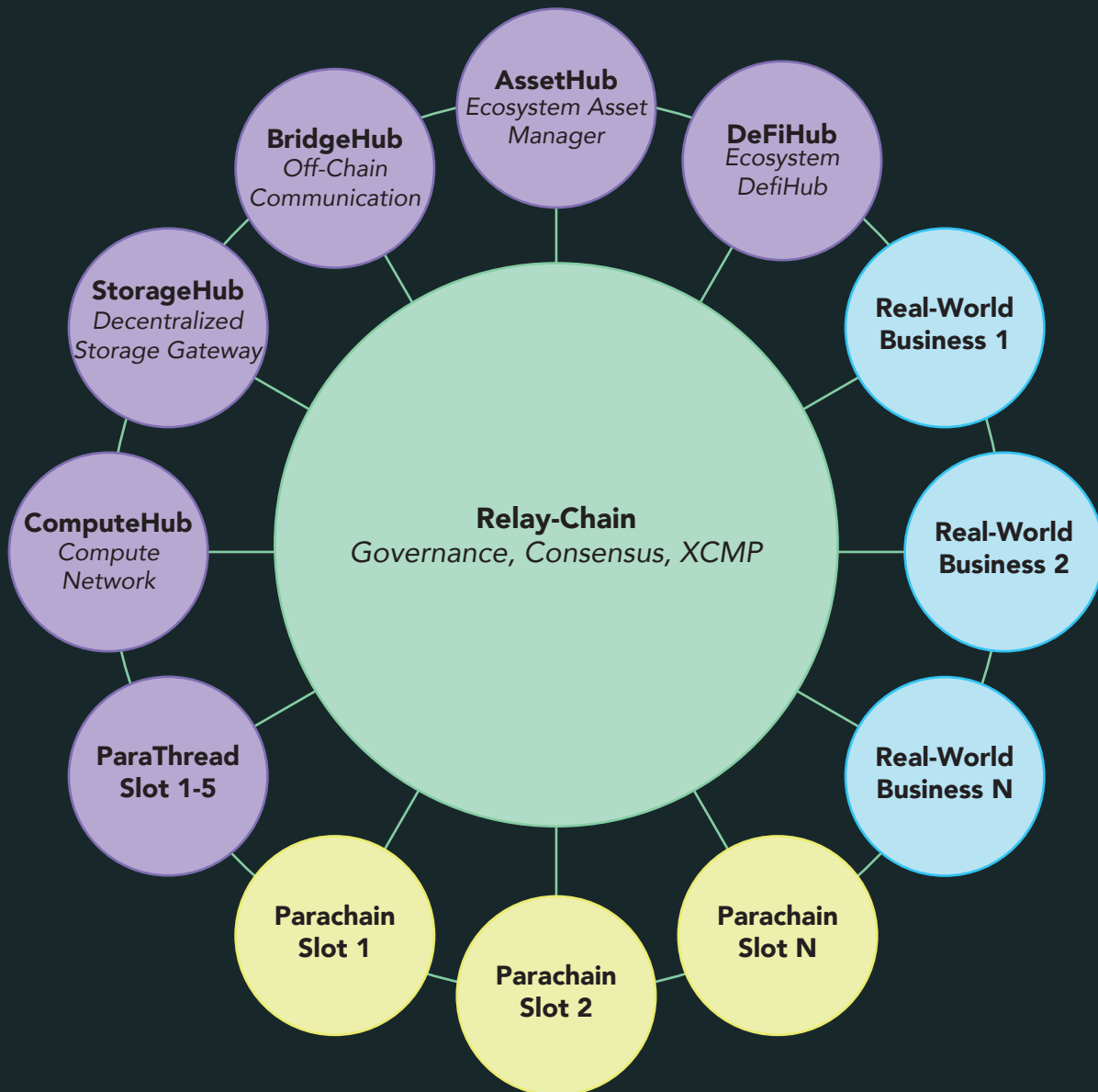
While crucial, DeFi is just one aspect. Vitreus supports diverse industries, including Industry 4.0 and AI, promoting real-world blockchain applications. Through its VNRG system, Vitreus democratizes blockchain validation and data storage, empowering users to contribute to network functionality. As a Proof of Stake, Vitreus aims to innovate further by implementing its envisioned hybrid consensus model combining Proof of Stake, Proof of Authority, and Proof of Reputation into Proof of Valued Participation. Through vGovern, Vitreus will grow alongside its community, powering the protocol of tomorrow.

VTRS
The Governance Model

Public → Treasury Proposals → Council

Proposal Queue

Endorsement
Only the proposal with the most support will become a Public Referendum.
+7
+3
+21

Motion

Proposal — Can also be directly executed → Treasury, Bounties, etc.

External Queue

Technical Council
Can FAST TRACK proposals

ON
OFF

Referendum

Delegation

vtrs.io
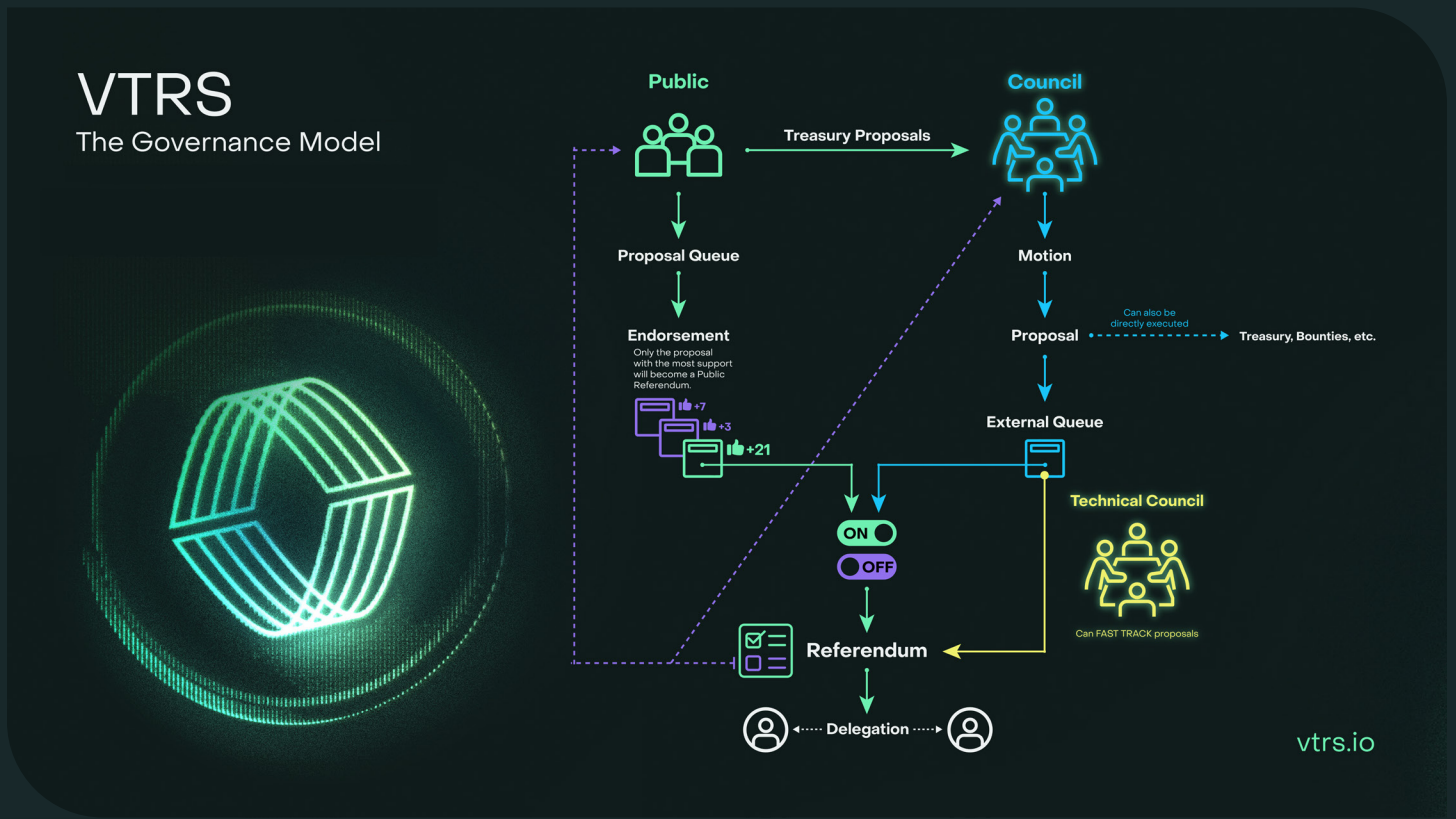
Vitreus fosters an environment for creative solutions and advancements, inviting users and enterprises to contribute to blockchain's transformative potential. As a Substrate-based Layer 0 blockchain, it connects Layer 1 blockchains, promoting scalability and robustness through community ingenuity. As Vitreus transcends traditional frameworks, offering an open Web3 experience. VTRS holders collectively shape a boundless future, turning decentralized technology into a reality for all. Vitreus represents a paradigm shift toward decentralized, democratized digital interactions, fostering a transparent, secure, and inclusive digital future.

The Minifesto is meant to provide more succinct information regarding the Vitreus ecosystem. Please refer to the Manifesto for the full scope of information

VTRS

The VTRS token, standing at the core of the Vitreus ecosystem, is a multifunctional digital asset designed to empower users and drive the decentralized infrastructure forward. The VTRS token plays pivotal roles in governance, staking, and unlocking the network's diverse functionalities.

Primarily, VTRS serves as the governance token within the Vitreus Network. This means that holders of VTRS have a direct say in the decision-making processes that shape the trajectory of the network. As active participants in governance, VTRS holders contribute to the network's evolution, fostering a transparent and community-driven approach to decision-making.

VTRS Final Tokenomics

VTRS ⬡

TOTAL VTRS SUPPLY*
608,754,871 VTRS

LAUNCH PRICE
$0.05 /VTRS

Purpose	Adjusted Allocation
TOTAL SUPPLY*	608,754,871 VTRS (100%) EQUIVALENT TO $30,437,744
SEED ROUND	116,382,377 VTRS (19.1%) EQUIVALENT TO $5,819,119
PRESALE	64,007,608 VTRS (10.5%) EQUIVALENT TO $3,200,380
MAINNET SALE	15,000,000 VTRS (2.5%) EQUIVALENT TO $750,000
LIQUIDITY POOL	10,000,000 VTRS (1.6%) EQUIVALENT TO $500,000
LIQUIDITY RESERVES	125,000,000 VTRS (20.5%) EQUIVALENT TO $6,250,000	HARDLOCK
TREASURY	68,364,887 VTRS (11.2%) EQUIVALENT TO $3,418,244	HARDLOCK
TEAM - COMMUNITY	3,990,001 VTRS (0.7%) EQUIVALENT TO $199,500	HARDLOCK (1-YEAR)
TEAM - CORE/DEV (2-YEAR)	36,009,999 VTRS (5.9%) EQUIVALENT TO $1,800,500	HARDLOCK (2-YEAR)
STAKING POOL	170,000,000 VTRS (27.9%) EQUIVALENT TO $8,500,000	DRIP
FULLY DILUTED MARKET CAP	**$30,437,744**
CIRCULATING MARKET CAP**	**$10,269,499**

* Circulating Market Cap is calculated as the sum of Seed, Presale, MainNet Sale and Liquidity Pool.

vitreus.io | vtrs.io

Beyond its role in governance, the VTRS token is utilized for staking, a process integral to the Vitreus ecosystem. Through staking, users lock up a chosen amount of VTRS tokens to contribute to the network's security and operational functionalities. In return for this contribution, stakers are frequently rewarded with gVolts, a micro unit of VNRG, as an incentive to secure and expand the network, which aligns incentives and encourages active participation in the network.

VNRG

VNRG is actively a substrate asset, like VTRS, which is generated through staking VTRS, based on the rate of 1 gVolt / 19,909.09 Staked VTRS per Era (4 hours). VNRG, or its microunit, gVolts, is primarily used for blockchain transaction fees. gVolts will always be used before VTRS when it comes to paying the network. In the event of a partial gVolt balance for the transaction, VTRS will be used to make the fee whole. This "dual native" concept decouples the traditional cost of using blockchain and allows for more opportunities for innovation through the relationship of these assets.

1 gVolt = 0.000000001 VNRG
Smallest value: 0.000000000000000001 VNRG

Here are key differences between VNRG and traditional cryptocurrencies in the context of securing a blockchain:

1. **Utility Over Market Value:**

    - Traditional cryptocurrencies, like Bitcoin or Ethereum, often have market values that can fluctuate based on speculative trading and market demand.
    - VNRG, on the other hand, is designed primarily for utility within the Vitreus ecosystem. It serves as a means to facilitate transactions, Smart Contracts, and other operations on the network.

2. **Algorithmic Management:**

    - Cryptocurrencies typically rely on blockchain consensus mechanisms such as Proof of Work (PoW) or Proof of Stake (PoS) to validate transactions and secure the network.
    - VNRG is algorithmically managed by the Vitreus network, generating more VNRG per staked VTRS when demand is high and less VNRG per staked VTRS when demand is low.
    - Its generation is tied to the staking algorithm via VTRS, ensuring a continuous and responsive flow based on demand and consensus requirements.

3. **Staking Mechanism:**

    - Traditional cryptocurrencies may use staking as a consensus mechanism, where users lock up a certain amount of tokens to participate in block validation.
    - In the Vitreus ecosystem, VTRS holders stake their tokens to generate VNRG. This staking mechanism contributes to the network's security while simultaneously delivering a transactional asset in return.

The Broker

The Broker plays a pivotal role in supporting the fluidity of the VNRG and VTRS marketplace. As users engage in transactions, staking, and other activities that involve the exchange of VNRG and VTRS, The Broker steps in to dynamically regulate the symbiosis of VTRS and VNRG. The Broker allows users to acquire VNRG, which can only be done by swapping VTRS into the Staking Reward Allocation. Stakers, as the sole generators of VNRG, are uniquely positioned to be able to utilize and sell their VNRG throughout the platform. The Broker is the only means for stakers to directly convert their VNRG into VTRS, but there is no fixed price or association between VTRS and VNRG, or the ratio in which they can be swapped. Instead, the broker manages a dynamically managed swap ratio between VTRS and VNRG, like how Decentralize Finance (DeFi) Autonomous Market Makers (AMMs) manage liquidity pools. This degree of demand for VNRG will dictate the swap price for VTRS, which could vary throughout its lifetime.

Currently, The Broker is implemented as a Static Model only, during the nascent stages of the network and follows this specific formula: 0.9 gVolts = 1 VTRS. Therefore, trading 1 gVolt nets your 1.1 VTRS.

Secured

Autonomous

Accurate, Always

Interuption Free

Fast Performance

Trustless

Cost Effective

Dynamic Energy Broker

While the initial release of the Broker takes the form of a basic, Static Model, that is aimed towards delivering a consistent, high-value APR. While the Static Model is a sufficient temporary measure, it will eventually fail to fulfill the demanding requirements of the network. Therefore, the dynamic system that the Energy Broker was originally conceptualized as, or The Dynamic Model, is proposed to take the place of the Static Model within 4 months. The Dynamic Model, so named for its fundamental ability to withstand the undulating pressures of the network, will easily adjust to the demand of the market, whilst retaining the affordability, usability, adaptability and scalability that are part of Vitreus' core principles.

What makes the Dynamic Model so formidable is the algorithmic symbiosis between VTRS and VNRG. At the same time, it considers a plethora of moving parts, safeguarding the network from volatile usage and variable participation. This takes both active and passive markets into consideration as well as potential partner integrations, workloads and future developments.

As an example, it would be fair to assume that VNRG (gVolt) usage would be at its lowest in the period before public launch. If the network usage is 100 gVolts per day, and network usage in a decade is one-trillion gVolts per day, how would the Dynamic Energy Broker adapt? Simply put, the quantity of gVolts per staked VTRS would dramatically rise to the occasion whilst the conversion rate of gVolts to VTRS is conversely adjusted to reflect the same quantity of VTRS outflow as dictated by the target APR, but factoring for the bloated quantity of gVolts. This keeps the annual reward rate of VTRS the same for stakers, whilst increasing the number of gVolts in circulation as required. With no cap to VNRG, an exaggerated demand of a trillion-trillion gVolts couldn't even break the network, or the APR.

Now let's assume we're in a bear market. A demand of a trillion gVolts per day has dropped to a demand of a billion gVolts per day. This triggers a reversal of the movement seen in the previous example. Here, the gVolts generated per staked VTRS would recede, and the conversion rate would require fewer gVolts to reward the correct amount of VTRS. In all scenarios, the number of circulating gVolts would inflate or deflate with network demand.

But what if there are spikes in demand, or lulls? This is where the Warehouse comes into play. The Warehouse stores gVolts to a maximum of the sum value of the previous 84 eras' demand, and VTRS the same. The Warehouse logic will maintain the levels of both VTRS and VNRG through the buying and selling via the Dynamic Energy Broker, but if either falls beneath 50% of the maximum, whether by spike in demand, or slow depletion, a replenishment mechanism boosts the levels to 75% full. As replenishments are required, VTRS is taken from the Staking Reward Allocation, while gVolts are minted. Meanwhile, any overspill of gVolts is burned. As with the gVolt generation rate, the Warehouse capacity adapts to the demand of the network, rising and falling as required. This system allows the network to adapt quickly to spikes in gVolt consumption whilst

also leveling itself out in the aftermath. The robustness of the Warehouse alongside the ingenuity of the Dynamic Model allows Vitreus to shine as a pinnacle of sustainability and affordability within the Web3 space.

With the fundamentals now explained, we can begin to elaborate on the figures that the Broker works to. Initially, an annual return of circa 12% for stakers is being targeted. This number heavily influences the conversion rate of gVolts to VTRS. To reach 12%, the algorithm trends towards an average produced VTRS per second; but this number is also influenced by the total number of VTRS staked. If we assume the total number of VTRS staked rises year-on-year as circulating supply increases, we face the choice of a decreasing annual return, or a level annual return that depletes the Staking Reward Allocation much quicker.

If we delve into this idea further, we can note a third option. Keeping the annual reward fixed but at a lower rate. In the first example, an annually decreasing yield would start at 12% and decrease to ~4% after a decade (under certain conditions), according to the Ecosystem Simulator. The solution might be to fix the yield at 8% for the entire ten years.

Replenishment mechanisms come into consideration to sustain these levels of return. Without a way to fund the Staking Rewards Allocation, the network wouldn't survive those ten years. So by leveraging fees, taxes and penalties to our advantage, we can help the network thrive inexhaustibly. Not just the Staking Rewards Allocation, but the Treasury and LP can also see benefits. Examples of these fees, taxes and penalties are outlined in the ESF (page 53), which can be adjusted by governance. When distributed correctly, the ecosystem would simply sustain itself.

In summary, with a Layer 0 Blockchain built for scalability, a dual asset ecosystem built for affordability, and a powerful tool for encouraging deeper user connection with the network, the Dynamic Energy Broker, in conjunction with the Warehouse and SRARS, forms the adaptable model required for Vitreus to thrive. Keeping the network safe from extremes in demand, while ensuring stable returns for stakers, is a complex necessity that the Dynamic Energy Broker, in this presentation, successfully negotiates.

vApp

The vApp serves as the modus operandi for interacting with the Vitreus ecosystem, encapsulating a suite of powerful functionalities and enabling seamless interaction with the platform. At its core, the vApp operates as a user's cryptographic wallet, providing a secure and user-friendly interface for managing digital assets, executing transactions, and engaging in on-chain activities. The vApp is available through app stores and includes the fundamental features for interacting with Vitreus.

Through the vApp, users have the capability to operate vNodes, contributing to the decentralized physical infrastructure (DePIN) that forms the backbone of Vitreus. This empowers users not only as participants but as essential contributors to the network's computational power, strengthening the overall robustness and decentralization of Vitreus.

The VTRS token, one of the native assets within the Vitreus ecosystem, takes center stage in the vApp. Users can seamlessly manage their VTRS holdings, participate in staking mechanisms, and will ultimately use vApp to connect to external applications, like vGovern and the Collaborative Staking Marketplace, to wield the governance power inherent in the token or to delegate their stake. This multifaceted role of the VTRS token, from governance to staking, underscores its pivotal position within the Vitreus environment.

Download the vApp from the Google Play Store or Apple's App Store to get started today.

Nodes, Operators, Cooperators
vNodes

A New Era in Blockchain Node Validation.
The VITREUS vNode.

Specifications

· Intel® i5-1340P /// 12 cores /// 4,6 GHz /// 20-64W
· Kingston® 32 GB RAM SO-DIMM DDR4-3200
· Intel® Iris® Xe Graphics
· Western Digital® 2 TB M.2 Storage
· Intel® i225-LM Ethernet for up to 2.5 Gbit/s
· Intel® Wi-Fi 6E AX211 (Gig+)
· VanguardianOS™ pre-installed
· First Generation **limited to 300 units!**

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vNodes, at the heart of Vitreus' decentralized infrastructure, redefines the experience of becoming a blockchain validator by offering a user-friendly, plug-and-play solution. These devices streamline and automate the intricate process of blockchain validation, making it accessible to a broader audience. Participation has never been easier through the vNode system, which entirely automates the complexity of setting up, hosting and managing a blockchain node for the Vitreus ecosystem. vNodes are specialized computing appliances that are designed to support and facilitate a heavily streamlined way of participating in blockchain consensus. By acquiring a vNode, users will be able to plug-and-play their way to join the network and be a part of the native incentivization models.

Designed for simplicity and efficiency, vNodes provide an intuitive pathway for users to engage with the Vitreus network as validators. The plug-and-play nature of these devices minimizes the technical barriers traditionally associated with becoming a validator, enabling users to seamlessly contribute to the decentralized physical infrastructure (DePIN) that underpins Vitreus.

Staking within the Vitreus ecosystem is a pivotal mechanism that empowers VTRS token holders to actively participate in and contribute to the network's security and governance. Staking involves the act of locking up a certain amount of VTRS tokens as collateral to support various functions and processes within the Vitreus network. The staking process provides several benefits to participants. Firstly, stakers contribute

to the creation and validation of new blocks, actively participating in the consensus mechanism. This engagement helps secure the network, verify transactions, and maintain the decentralized nature of Vitreus. Secondly, stakers may receive rewards in the form of gVolts (VNRG) as an incentive for their contribution to the network's functionality. Vitreus represents a different, layered implementation of Staking that derived from a Nominated Proof of Stake concept. To calculate rewards, we can consider the following:

Rewards

Validator rewards for era X are calculated by the formula below:

Validator Total Rewards = Validator Base Rewards * Reputation Bonus
where
- Reputation Bonus – bonus that user gets depending on his Reputation on the end of X era,
- Validator Base Rewards – basic rewards for X era that validator has without reputation bonuses and are calculated by the formula below:
- Validator Base Rewards = (Validator Solostake + (Total Stake – Validator Solostake) * Validator Commission) / Energy Rate
  where
  - Energy Rate – VTRS to be staked to produce 1 gVolt (base rate),
  - Validator Solostake – amount of staked VTRS by validator on his node that is taken into account in rewards calculation in X era,
  - Total Stake – amount of staked VTRS on validator node both by validator (node owner) and all the Cooperators who delegated their stake to this validator node that is taken into account in rewards calculation in X era,
  - Validator Commission – percentage that validator set as a commission on the rewards that Cooperators on his node receive

Please note that rewards are paid based on Era X–1, where X = Current era and the rewards received are based on the values from the previous era. If your stake or delegated stake changes between Era X and Era X+1 the rewards provided will also change with an Era delay.

In the Vitreus environment, a user is required to stake a minimum of 1,000,000 VTRS for validator eligibility. Users that do not want to run their own node need to provide a minimum of 1 VTRS to a validator to become a collaborator (within the Collaborative Staking model). Users that choose to collaborate with an Operator for staking will be non-custodially issuing their tokens, for the purposes of Consensus consideration, to said Operator. In turn, they are eligible for staking rewards as mentioned above.

Inactive Stake	— UNSTAKE			Locked Unstaked Amount	Available Unstaked Amount			🗎 CLAIM UNLOCKED STAKE
-				-	-			

STATUS	VALIDATOR ADDRESS	COMMISSION	REPUTATION LEVEL	VALIDATOR SOLOSTAKE	DELEGATED STAKE	MY STAKE	NUMBER OF COOPERATORS		
✓ Active	0x00E9...8939	20%	Vanguard 2	502.88K VTRS	727.59K VTRS	-	31	+ STAKE	— UNSTAKE
✓ Active	0xAd16...e172	20%	Vanguard 2	643.55K VTRS	2.18M VTRS	-	61	+ STAKE	— UNSTAKE
✓ Active	0x9bd5...F9DC	20%	Vanguard 2	200.00K VTRS	2.20M VTRS	-	73	+ STAKE	— UNSTAKE
✓ Active	0xf781...dcD7	20%	Vanguard 2	134.83K VTRS	1.22M VTRS	-	34	+ STAKE	— UNSTAKE
✓ Active	0x1d8E...9380	20%	Vanguard 2	989.96K VTRS	279.16K VTRS	-	9	+ STAKE	— UNSTAKE
✓ Active	0x401D...014C	20%	Vanguard 2	536.63K VTRS	888.54K VTRS	-	17	+ STAKE	— UNSTAKE
✓ Active	0x8795...7150	20%	Vanguard 2	100.90K VTRS	129.54K VTRS	-	5	+ STAKE	— UNSTAKE
✓ Active	0x01FE...d612	20%	Vanguard 2	74.06K VTRS	746.99K VTRS	-	30	+ STAKE	— UNSTAKE

The Collaborative Staking Marketplace – Where non-Operators go to stake VTRS and earn VNRG

Please note that each Operator found in the Collaborative Staking Marketplace is able to accept 256 Cooperators, but only 128 of these (the ones with the highest stakes) will be eligible for gVolt rewards. So Cooperators should consider applying their stake to various validators with lower collaborator counts. This increases the decentralized element of the network, and also benefits stakers because of diversification and personal assurance of rewards (due to the 128 Cooperator limit)

Vanguard Incentive Program (VIP)

The VIP is an opt-in only scenario that is directly supported by a business agreement between parachain partners. In exchange for a parachain slot, eligible business partners will pay into the VIP program, which directly funds the rewards. Users that choose to be a part of this program will be subject to greater rewards over a longer commitment period. The soft-lock mechanism is designed to allow users to maintain decision-making power of their VTRS tokens. Soft-Locking is designed to allow a user to exit the staking pool, through a blockchain transaction, at any point in time during their commitment. However, through breaking this commitment to the network, users will be subjected to a taxation on their staked VTRS. This taxation is recycled to the Staking Reward Allocation.

At the time of commitment, users will be able to select between a declining tax or a flat tax rate which they will be subject to in the event they break their commitment for one reason or another. Stakers can choose either a Declining Tax (25% with a 5% decrease each quarter (IE January (Q1) = 25% where October (Q4) = 10%) or Flat Tax of 17.5% for the entire duration. Each VIP reward period is exactly 365 days, tracked in UTC time. Regardless of when the user enters the program, their active stake(s) will begin generating VIP Points. If a user enters in October, they will only be generating points from October until the end of the pool on December 31st.

Each user receives VIP rewards based on their proportional participation within a single quarter. With each quarter being 547 Eras from the start of the calendar year. If a user only participated in a portion of the current quarter, they will only be eligible for a direct portion of the rewards. As an example, a user that enters at Era 200/547 would only be subject to receive 36.56% of their proportional reward quantity from that quarter's pay out, based then against the quantity of VTRS they have committed. VIP is tracked on a points system, accumulating every day at UTC+0. Ideally, we deploy our claim portal and host a leaderboard so that users can see where their wallet falls on the chart, displaying the % of rewards along with the Point Totals and Ranking. The formula below illustrates how points are calculated. Points are applicable from January 1st UTC+0 to the end of December 31st UTC+0. Rewards can be claimed anytime from February of the year following when the pool ended (for example, the 2024 pool can be claimed starting February 2025). For the month of January, an existing member of VIP can change their Penalty Type or withdraw from VIP altogether if they so wish (for example, if a user wishes to withdraw from the 2025 pool on January 31st 2025, they can do so without penalty).

As VIP Points are generated as soon as a user using the vApp opts into the program, the points will be tallied by the following formulas:
New balance = Current balance + Increase
where

- Current balance – balance of VIP Points on the moment of calculation
- Increase – VIP Points to be added for last day, calculated by the formula below

$$Increase = ActiveStake / (ElapsedDays+N)$$

- ActiveStake – stake value that is taken for rewards calculation on the end of period (meaning if it is currently day A, then the active stake is taken on the moment of the beginning of A+1 day (00:00)
- ElapsedDays – number of days elapsed from the beginning of the year
- N – modification variable; hard value. Initial implementation: N = 50

This value acts as a smoothing metric between frontloading VIP points to too concentrated and calendar range.
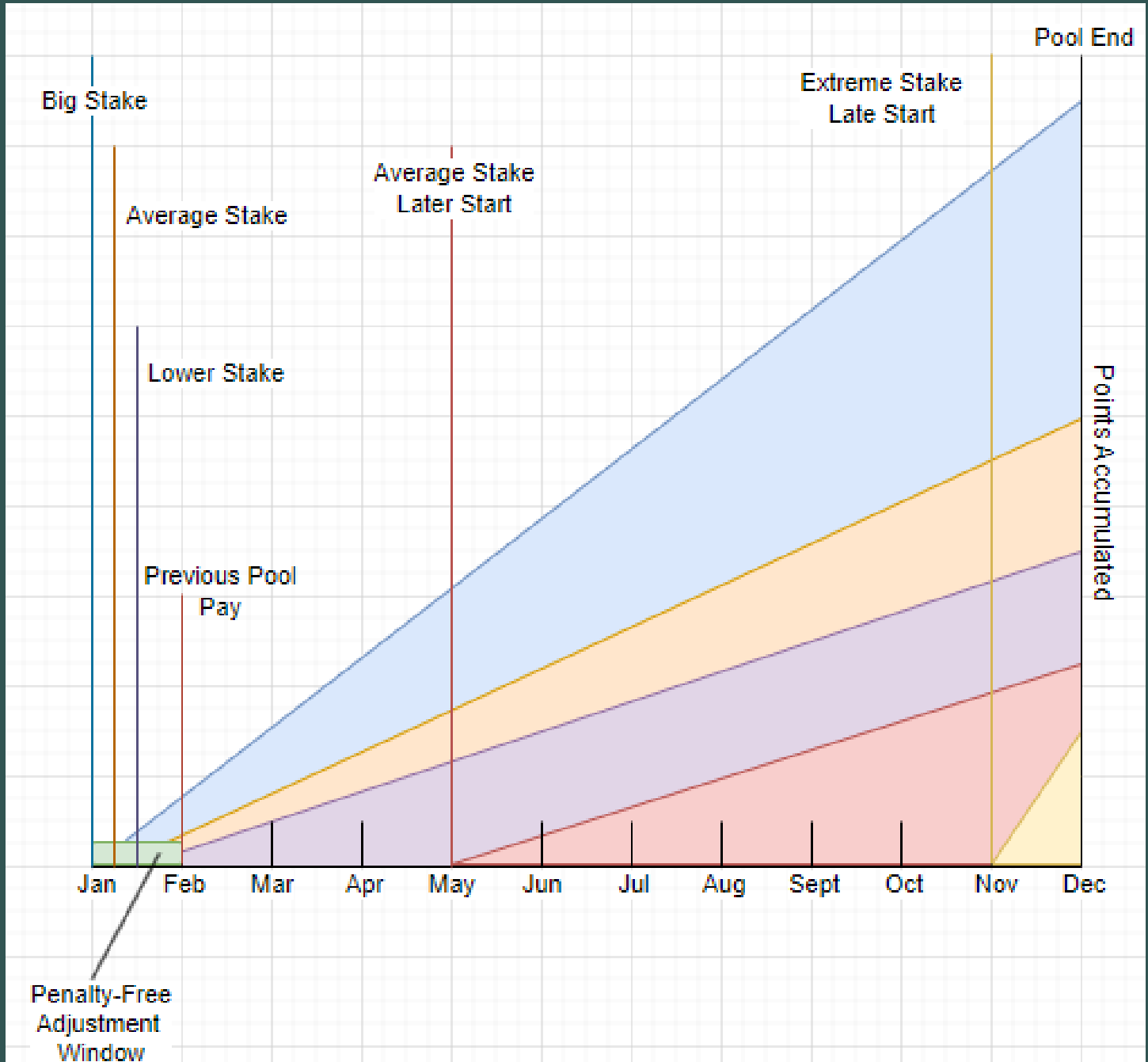
Simply put, as long as a Cooperator has at LEAST one active stake, they will remain in the VIP program. As the VIP program demands an active stake, point generation will be paused if stakes become inactive. If a Cooperator has no active stakes when they choose to unstake their inactive stake, they will be removed from VIP, lose their accumulated points for the reward period, and be charged the predetermined withdrawal penalty.

Validators have an easier situation. If their node moves from "Validating" status to "Online" status, meaning they are no longer a validator, then their stake is considered inactive. The Operator must simply become a validator again. If an Operator unstakes their tokens, at any time, they will exit VIP.

Vanguard Incentive Program Preferred (VIPP)

VIPP, or the Vanguard Incentive Program Preferred, is a layer-on system meant to support the foundational support from the early activists on the Vitreus ecosystem. Those that were active in the pre-launch community event(s) and have staked their VTRS within the VIP system will be minted a VIPP NFT. This NFT represents a quantity of tokens equal to the amount they acquired within the pre-launch period and is tracked since the initial claim period within the user's respective wallet via their NAC. Holders of this NFT will burn & mint the NFT after each successful VIP commitment but should they fall below the VTRS they had during pre-launch, they will automatically burn their NFT and never be able to mint said NFT again, excluding them from the program forever.

A VIPP NFT is minted when a user opt's into the VIP Program for the first time. This VIPP eligibility is tracked within the user's NAC and will be representative of their VTRS threshold. If a user wishes to purchase additional VIPP NFTs from peers, then they must already have a quantity of VTRS greater than or equal to the collective quantity of tokens required to satisfy the new purchase. Simply put, if your NFT is 1000 and you have 1000 VTRS, no problem. If you want to buy another NFT that has 500, you would need to have 1500 VTRS before you could make that purchase. Conversely, the ordering of NFTs then matters after the fact. In this example, NFT1 (1000) and NFT2 (500) would require 1500 VTRS to maintain. But if the user drops to 1400 VTRS, they would automatically burn NFT2.

VIPP is meant to be a permanently shrinking pool of eligibility. Due to logistical considerations, the implementation will be noted later; however, the concepts of VIPP to maintain are the following:

- Eligibility will be permanently lost below your original threshold
- Eligibility cannot be increased unless existing VIPP eligible NFTs are acquired
- Eligibility is bound to a quantity of tokens tied to an NFT acquired through the seed & presale rounds only
- Reward quantity from VIPP is based on the amount of tokens staked under VIP and cannot be an amount separate from that. VIP Stake = VIPP Stake

Reputation

Reputation dictates expanded rewards and additional opportunities to improve the network. The Vitreus platform is divided into reputation-gated zones that only allow the public to validate the transactions in those zones after they acquire a certain tier of reputation. Reputation is a parameter that all validators are subject to. Not only do these reputation values increase the incentive to continue working hard for the network, they are also a sign of trust within the network that an Operator is reliable. In Vitreus, this value can be used as an opportunity to leverage public DePIN, which already has a sense of vetting incorporated. This added value supports would-be parachains the ability to leverage existing Operators with new opportunities and direction as the ecosystem continues to mature.

The lower limit for obtaining level X is calculated by the formula below:

$$\text{Lower Limit}(X) = 2 * 124\ 416\ 000 * (X / 9)\ ^\wedge\ 1.6$$

- Trailblazer 0 is achieved only when user who previously had Trailblazer 1 was slashed and the reputation level fell below lower limit of Trailblazer 1
- Ultramodern 0 is achieved only when user who previously had Ultramodern 1 was slashed and the reputation level fell below lower limit of Ultramodern 1

To recap how the Reputation Tiers work, users start at Vanguard 1 and the Reputation Tiers are broken down as such:

REPUTATION LEVEL	BONUS	REPUTATION RANGES
Vanguard 0	0%	0 – 7,398,065
Vanguard 1	0%	7,398,066 – 22,426,724
Vanguard 2	2%	22 426 743 – 42 905 425
Vanguard 3	4%	42 905 426 – 67 985 171
Trailblazer 0	5%	22 426 744 – 67 985 171
Trailblazer 1	8%	67 985 172 – 97 156 132
Trailblazer 2	10%	97 156 133 – 130 064 930
Trailblazer 3	12%	130 064 931 – 166 446 656
Ultramodern 0	13%	97 156 134 – 166 446 656
Ultramodern 1	16%	166 446 657 – 206 092 502
Ultramodern 2	18%	206 092 502 – 248 831 999
Ultramodern 3	20%	248 832 000 – 294 522 320
Ultramodern 3 + X	20% + X%	Lower Limit(X+9) to Lower Limit(X+10) – 1
Note: Ultramodern 3 is the highest of the core tiers. Reaching this level takes approximately 365 days of nominal effort. After Ultramodern 3, there is an endlessly scaling, single % bonus that is applied to the validator per level they achieve afterwards. Therefore, Ultramodern 85, would be 20% + (85–3)% = 102%. These bonus values apply directly to gVolt generation rates for Node Operators.		
Note: Additional exploration around adding these bonus values to the consideration of an Active Validator slot, as an amplifier to Total Stake of an Operator, is underway.		
Note: These values represent the upper and lower bounds of each reputation tier. For example, when reputation is provided to a user and the formula below calculates their tier, their reputation score lands between 0 and 7,798,065, then the user is Vanguard 0.		

All the users get Reputation increase each Epoch (Hour):
new reputation = current_reputation + reputation_base_points * (end_block – start_block)
where:

- end_block – the last block of current epoch
- start_block – the last block of previous epoch
- usually this number in mainnet is 600
- reputation_base_points = 24

Active validator that produces block gets additional reputation for block production calculated by formula:

increase = reputation_base_points * number_of_active_validators

Finally each user gets 24 points per block, active validator gets additional 24 per block (on average)

All users start on-chain at Vanguard 1 and, as the above formula states, begin earning Reputation per Epoch. When an on-chain wallet's Reputation Points cross the threshold into a new tier (such as Vanguard 1 [22,426,724] to Vanguard 2 [22,426,725]) then that on-chain address becomes Vanguard 2. These point values determine which rank you fall into at any given time. Should your on-chain address be slashed from a validation-based event, then you would fall down to your nearest "zero level" or safety net, which is represented by Trailblazer 0 and Ultramodern 0. These levels are only achieved when a user that was Trailblazer 1 or Ultramodern 1 or above ends up getting slashed, allowing them to fall down to the safety net range of the Zero Level. In order to climb up to a new tier, you must simply acquire reputation points.
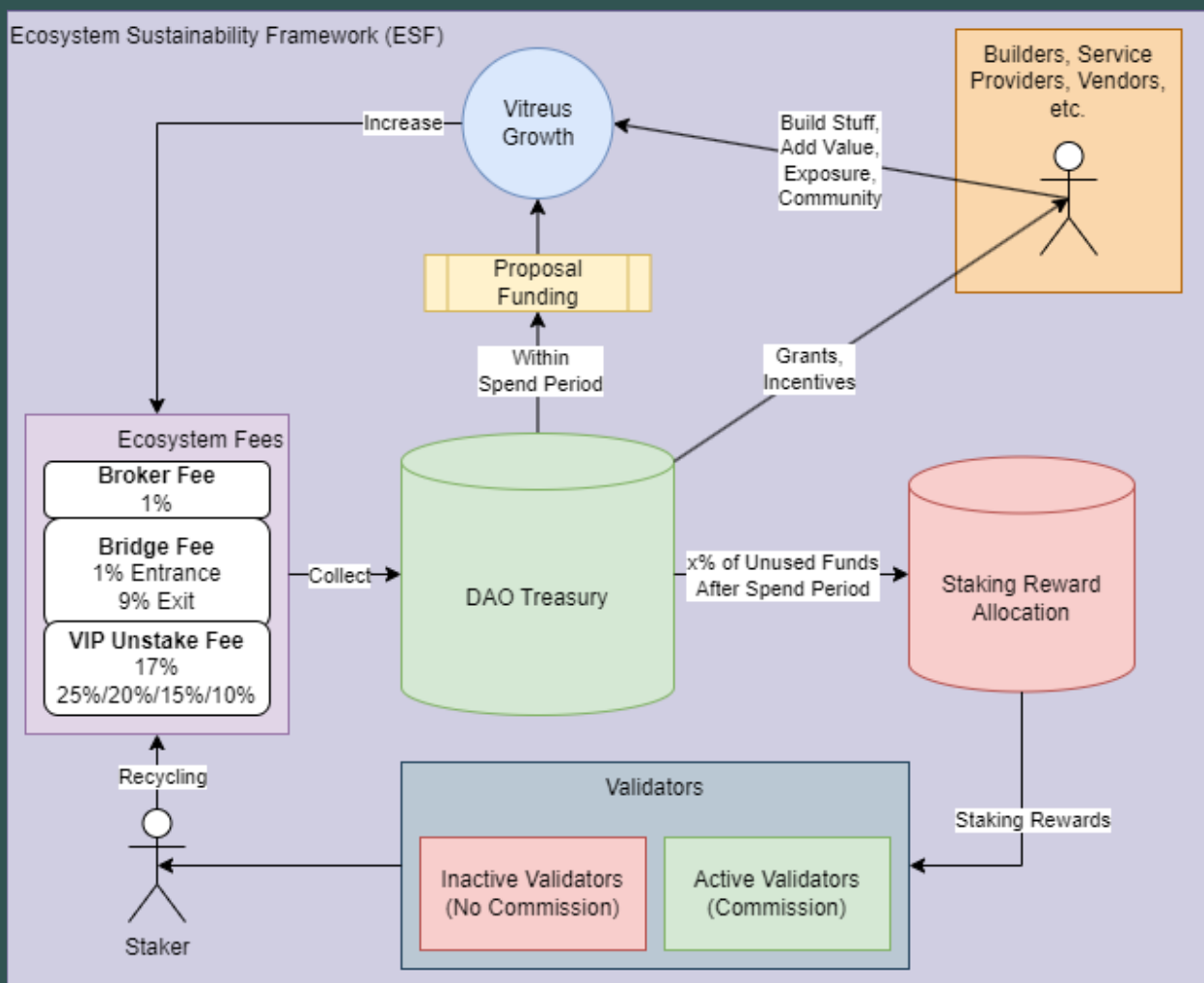
Ecosystem Fees are ultimately meant for sustainability of the ecosystem which largely boils down to 3 Elements:

1. The ability to incentivize Validators through a yield that is profitable when running a node.
2. The ability to enact upgrades to the network to continue the vision and objective
3. The protection and wellbeing of stakeholder interests (see 1 and 2)

By applying fees in key areas of the ecosystem, we are able to harness additional VTRS tokens to support the Treasury holdings. The more VTRS in the Treasury, the less supply is active, but is still circulating, which support the floor of the token. Leveraging the default method of "burning" Treasury tokens will be repurposed into a replenishment mechanism, where X% of Treasury funds after a Spend Period, will be recycled to the Staking Reward Allocation.

Roadmap

Vitreus' development began Q1 2023 and has successfully launched in Q1 2024. With a Layer 0 blockchain built with Substrate, a Blockchain Explorer, Staking Marketplace, DePIN Nodes, NFT vouchers and more. This build was both exciting and arduous. Now, during our transition into a fully decentralized, DAO-governed ecosystem, the final stages are underway. Mainnet is live, DePIN nodes are functional and being activated in the ecosystem, the vApp is listed on Apple and Google application stores. Finally, our initial roadmap is complete.

Behold, vExplore the Vitreus Blockchain Explorer

Beyond Mainnet – The world is Vitreus' oyster. While there are many revisions and improvements to get underway, there is no firm roadmap set for Vitreus. However, the Genesis Council has discerned some of the following to be key elements of interest:

1. ***Dynamic VNRG –*** The VNRG system, for sustainability, cannot remain fixed and must be made dynamic, working with the network to discern a proper ratio of gVolts:VTRS

2. ***Parachain Switcher*** – The ability for a node Operator to simply and dynamically adjust their node to support onboarding parachains and system expansions

3. ***System Chains*** – The deployment of key areas where a system–level parachain would be most beneficial for the longevity and scalability of the network.

4. ***Open Testnet*** – this allows permissionless access to a Vitreus Testnet

5. ***Transactable Data Token Standards*** – one of the more innovative concepts within the Vitreus ecosystem that seeks to add a transactional layer between your sovereign data and data requesters, such as fulfilling KYC requirements, onboarding forms, and more…

These suggestions remain subject to the collective's vote before Treasury funds will be deployed to enact these ideas and upgrades to the network. We hope that our vibrant community of VTRS holders will bring forward news and exciting value propositions through vGovern.

The Minifesto is meant to provide more succinct information regarding the Vitreus ecosystem. Please refer to the Manifesto for the full scope of information