Nova Finance Specifications

Welcome to Nova Finance

Introduction

Nova Finance is a yielding platform which creates and collects the best yielding strategies and provides them to users in one place. Participants in the yielding strategies will reward users with Nova Token, a govrnance token that will provide opportunities to make decisions and influence the future of the protocol.

Supporting Tools

In order to provide the best yielding opportunities and sustainability to Nova Finance Particpants, there are a range of additional tools and processes within the protocol:

Governance

Our governance allows participants to collectively make decisions around future development of Nova Finance using meritocratic processes. More information can be found in Governance Protocol

nTokens

When a participant places capital within a yielding strategy, they are provided a form of LP token within the Nova Finance platform called an nToken. These tokens hold the value of the underlying asset and the yield being generated from the strategy. This makes nTokens a naturally appreciating value assset, providing the underlying asset holds or rises in value.

Nova Swap

Nova Swap is an Automated Market Maker (AMM) deployed to assist users within Nova Finance. It has a few noteworthy features over other AMM's:

- nToken Market Support

  nTokens can be exchanged within NovaSwap to other nToken assets. This means that participants can swap to other strategies in one transaction. For more advanced users,

NovaSwap can be used to navigate short term asset volatility and accumulate more nTokens.

- Trade Routing

  If Nova Swap does not have the required liquidity to accomodate a trade, it will re-route through other AMM contracts such as Uniswap to fulfill the trade for Nova Finance users.

Universal Asset Engine

A market creation tool which also provides new opportunities for yielding strategies. Our yielding platform will provide access to these yield opportunities.

Nova Ratings

Nova Ratings are used to assess strategies and provide transparency to users of Nova Yield who want to participate and understand the processes and risks involved.

Tokenomics

Nova Token contract address:

> www.etherscan.com

Total Supply: 1,500,000

Activity	Amount	Percentage	Notes
Bootstrap Phase	1,000,000	66.6%	See details below
Development Team	100,000	6.66%	to be released to the team across 12 months
Reserve for future incentive programs	400,000	26.66%	Locked for X weeks until governance process is fully ready. Upon completion, these funds can be voted on by community to release for new program proposals and technology developments

Bootsrap Phase

The bootstrap phase begins at platform launch and lasts for 30 days. The intention of the bootstrap phase is to reward early adopters for their engagement with Nova Finance. On top of rewards gained from farming strategies, Nova Tokens will be released to farmers. The following tables outline the distribution of these tokens:

Activity	Share of distribution	Total Tokens
Farming Strategies	40%	400,000
Stake Incentives	20%	200,000
Liquidity pools for NovaSwap	40%	400,000

Farming Strategies

Use these farming strategies on Nova Finance and you will receive a share of the distributions allocated:

Strategy	Global %	Total Tokens	Daily Release

Stake Incentives

Lock these assets to create nTokens representations and earn a share of Nova Tokens in these distributions:

Asset	Global %	Total Tokens	Daily Release

Liquidity Pools for NovaSwap

Provide nToken liquidity to the following markets on NovaSwap and earn a share of these Nova Token distributions:

Market	Global %	Total Tokens	Daily Release

Reserve for future incentive programs

Nova Finance has a number of concepts and innovations in development. As a result, 400,000 NOVA have been locked in reserve for incentive programs for some of these developments.

These tokens will be locked for X weeks while our Governance Protocol development is completed. Once this has happened, the allocation of these tokens can be proposed and decided on by the community via this mechanism.

Nova Ratings

When developing or assessing strategies, Nova Finance has a set of principles used to assess the strategy. These principles are used to form Nova Ratings which are visible on every strategy page.

Nova Ratings

Within DeFi, development has been progressing at a breakneck pace. It can be difficult and time consuming to keep up and fully understand strategies and the potential risks involved. While Nova Ratings are not designed to replace individual assessment and research, they do aim to clearly explain the underlying strategy process and give a range of benchmark information to assist in a users decision making.

Strategy Principles

When evaluating a farming strategy, we believe it comes down to risk and the financial reward that can be gained from engaging in the strategy. Risk can come from many areas but to simplify it, we evaulate risk from 3 areas:

- Financial Risk: the risk of losing funds permanently in some form whether thats theft or locked access or the devaluing of an asset.
- Technological Risk: does the code fundamentally work and are there any potential exploits that could occur.
- Social Risk: Can the decisions of others impact the stability of the strategy such as governance votes and unbalanced weight factors amongst parties.

Within reward, you also have the "Likelihood" of an outcome. While in some ways likelihood is similar to risk, it focuses on the reality rather than the possibility. In the context of rewards, the likelihood is used to gauge the sustainability and accuracy that an expected reward will occur.

Assessment Process

The evaluation method is the following:

$$NovaRating = (Reward * Likelihood) - Risk$$

Many factors go into each of the components and are detailed below. For each strategy, a report is generated with scoring and justification and a score will be produced between 1 & 100.

Strategies with a nova rating greater than 75 can be deployed for use on the platform.

Some factors are evaluated in a subjective manner however, providing transparency will allow others to weigh up and come to thier own conclusions about scoring and risk.

Most factors have a flexible scoring system with recommened points awarded. The assessor can use these as guidelines on what score to give an asset.

Reward

There is one key factor in reward: How much yield will be generated over the course of a year (APY)?

APY range	Points awarded
>20% APY	100
10-19% APY	97
5-9.9%	95
1-5%	93

The reward score is the maximum score a strategy can achieve. Depending on the types and degrees of risks and likelihood, this score will decrease when these additional factors are applied.

Likelihood

$$Likelihood = EmissionStability + GrowthRobustness + OutputCurrencyStrength$$

- Emission Stability:
  Is the distribution of rewarded currency(ies) going to change in the next 12 months? If it is, this could impact the reward allocated.

Answer	Outcome
No	+0.33

Yes, in 6-12 months	+0.3
Yes, in 3-6 months	+0.28
Yes, in 1-3 months	+0.25
Yes, <30 days	+0.2

- Growth Robustness
  What is the likelihood of a strategy doubling in allocated capital? If the risk is high, earnings could be diluted and impact the efficiency of the strategy. Higher TVL suggests a strategy is matured and is likely to be more stable.

Answer (7 day average)	Outcome
over $50m TVL	+0.33
$25m-$49m TVL	+0.3
$10m-$25m TVL	+0.27
$5m-$10m TVL	+0.24
$1m-$5m TVL	+0.2
$100k-$1m TVL	+0.15

- Output Currency Strength
  How mature is the financial market for the assets being payed out by the strategy? If the asset is new and immature, asset devaluation could significantly impact yield dollar value.

Answer	Outcome
Stablecoin	+0.33
Over $500m live marketcap	+0.3
Over $100m live marketcap	+0.27
Under $100m live marketcap but over $1m average daily trading volume	+0.26
Over $1m live marketcap and $300,000 average daily trading volume	+0.24

Other (Score accordingly)	+0.2

Risk

$$Risk = (TotalRisksIdentified/(Count(ContractsUsed)) + Count(UniqueProtocols)$$

The assessor will study each contract used, run them through security analysis software like mythril and also take into consideration any external audits and reviews carried out.

Technological risk	Recommended Scoring (For each unique risk)
A vulnerability which could result in loss of funds and could be exploited with relative ease by protocol creators or 3rd parties	Fail assessment
A vulnerability which could result in loss of funds but would be highly improbable to happen either due to other dependancys, high resource required, or unlikely turns of events.	+3
A vulnerability which could leave funds inaccessible within smart contracts or being allocated to another purpose other than the original intent	Fail to +10
Inefficient or poorly written code that does not have risk but could impact user experienced	+1

Financial Risk	Recommended Scoring (For each unique risk)
Could impernament loss occur?	if yes, +5
is there a possibility of liquidation (applicable to strategies which utilise lending)	if yes, +5

Social Risk	Recommended Scoring

How many protocols does the strategy pass funds through?	+1 for each count
Have any of these protocols have ever suffered a breach?	+1 for each count
Did any of these breaches result in loss of funds? (note: if a full refund occurred in any form, add only +1)	+2 for each count

Governance Protocol

Protocol Objective

Governance within Nova Finance is a crucial component in ensuring that we build an autonomous and sustainable system. Many existing governance protocols within decentralized ecosystems are functional but are rarely effective and most encounter one or both of these challenges:

1. It is difficult to make governance accessible and worthwhile for users to regularly participate in proceedings, even in at critical decision opportunities. For example, the Ethereum Carbon Vote on DAO bailout proceedings in 2016 received less than a 5% turnout.

2. Decision weight is often hugely biased towards those who have the largest token balances. While this is understandable as larger balances have typically put the largest amount of financial resources into the system, it heavily favours early adopters. Having protocols heavily based on financial stake doesn't take into account a persons understanding, track record and motivations behind the decision they made.

Our governance protocol has the primary objective of allowing for efficient decision making within the Nova Finance ecosystem. Participants can earn Nova Token for guiding the development of the Nova ecosystem by voting in proposals.

Voting protocol process

When the user first connects their wallet to the governance protocol on the web app, they are asked to prioritise what values they think matter the most in the Nova Finance Ecosystem. The list of values and meanings:

Value	Meaning
Prosperity	Ensuring profits for all parties involved
Sustainability	Ensuring longevity for all parties involved
Decentralization	Ensuring that our systems are as robust and transparent as possible

Adoption	Delivering more value than external forces
Liberty	Providing people with opportunities and the ability to make choices
Innovation	Coming up with unique and novel concepts and pioneering development
Inclusivity	creating opportunities for anyone irrespective of wealth, background, race, gender or religion
Community	Supporting the wider ecosystem and other projects and development processes
Evolution	Progressing humanity and improving and/or removing outdated/inefficient structures and concepts

Highest receives +9 through to lowest which receives +1. These results for each account are recorded on chain with a digital signature/approval transaction. There will be a page which displays these at all times. The top 5 of these values at any time will be used for questions during the voting stage, see user voting for more info.

Submitting a proposal

Any user can submit a proposal. Proposals last 3 days (72hours). 10 Nova Tokens are locked to the proposal in order to submit. There are 2 outcomes for a proposal creator:

Success: if the majority approve the proposal, they receive 10 Nova Tokens back alongside and additional 10 NovaVote from the proposal contracts. 90 Nova Tokens are also released to voters and split according to their voting weight.

Denial: If the majority rejects the proposal, the 10 Nova Tokens are sent to the proposal contract ready for redistribution in the future. 100 Nova Tokens are released to votes and split according to their voting weight.

User Voting

When a user votes on a proposal, this is the process that happens:

1. The user votes yes or no to the proposal

2. Then they are asked to explain their reasoning for their decision in line with the NovaVote protocol values. They are asked the following question for each of the top 5 values and

selection across the responses listed below:

3. How much do you think this proposal will impact {the value} within the ecosystem?

   Strongly Reduce (o) Reduce (o) Increase (o) Strongly Increase (o)

Once the user has done this, the vote process is complete.

Weighting

Once the proposal voting period has concluded the weight is calculated with 3 factors:

Wealth: 33%

This is based on how much Nova Tokens the user has in their wallet. It's ok if they have zero, they will score zero in this weight and can generate a weight from the other factors.

$$Wealth = (walletbalance/totalsupply) * weightallocation$$

Vote Participation 33%

This is based on how frequently a user participates in voting.

$$Participation = (votesregistered/proposalcount) * weightallocation$$

Voting Justification - 33%

We want to establish how in tune an individual voter is with the common values. The most selected answer for each value is the top percentile and the option least selected is the bottom percentile. Depending on which answer a user gives, they will get awarded points according

Position	Points awarded
Top Percentile	+3

2nd place	+2
3rd place	+1
Bottom Percentile	0

The maximum a user can gain across the 5 values is 15.

$$Justification = (userscore/15)*0.33$$

Final Calculation

These factors are added up to produce a total weight. Each yes or no vote counts initially as a value of 1. However once the weight is established across factors, the true vote weight is established:

$$TrueVoteWeight = 1*(Wealth + Participation + Justification)$$

True vote weight is calculated for both yes and no and then the outcome is determined. The majority Vote is the outcome which is greater than 50%.

Voting Rewards

A user's total weight is also used to calculate the rewards they receive from the vote. This can be established through this calculation:

$$Reward = (UserTrueVoteWeight/AllTrueVoteWeight)*ProposalReward$$

Where *Proposal Reward* is either 100 or 90 depending on the proposal outcome.

At this point, the Nova Tokens are allocated to the user within the governance smart contract which they can redeem at any time.

Universal Asset Engine

What is the Universal Asset Engine?

The Universal Asset Engine is a framework which allows anyone to create custom specification financial markets for any kind of asset. It is made up of 3 key components:

Oracles

Oracles are used to provide sources for the price of an asset to the protocol. The price is then used for reference when users open, trade and close positions within the market.

Engine

The engine allows any trader to take up a position in the market. The engines rules are configured by the Market Creator and are enforced by smart contracts to make sure that all positions operate under the required terms. More details can be found in Engine Creation

Pools

Pools power the rewards that can be potentially gained by a participant in the market. Pools require capital to be provided by liqudity providers to pay out rewards. Liquidity providers to the pool in exchange are eligible to maintenance fees taken daily and any capital claimed by the engine on losing positions..

Why should traders use markets within the Universal Asset Engine?

For traders, the Universal Asset Engine presents a fully transparent and dependable trading system ran on chain. Virtually any kind of asset can be traded providing there are reliable price feeds which makes it possible to trade assets typically outside the cryptocurrency space.

Unlike centralised leveraged markets, the asset price is always defined and can be settled by the current live price meaning that slippage is not a trading risk.

The benefits and opportunities within the Universal Asset Engine

Pools within the Universal Asset Engine present a brand new yielding opportunity within the cryptocurrency space. Participants are entitled to maintenance fees and the capital gained from losing trading positions. This has the potential to produce high and consistent yield providing the market is being consistently traded and there are more losing trades than winning trades.

Once markets are established, Nova Finance will be creating vaults which diversify capital across multiple top performing Pools. Participants in the vault will be able to use our governance protocol to maintain and update the split of capital across pools and add new markets to the vault.

Market Creation Process

Oracle configuration

The Market Creator has to find at least 3 sources for the price of the asset they intend to create a derivative for. Its possible to make the derivative up of multiple assets. The Creator is responsible for maintaing these oracles.

Engine Creation

The market creation contract takes these sources and produces a 5 min moving average price of the asset.

The creator also has to define the following rules for the pool:

- Currency used

  The creator can set the token contract address that is to be accepted by the pool. This is likely to be a stablecoin of some kind.

- Leverage Rate

  This is fixed for every participant in the pool. The multiplier dictates the value of each contract.

  Example: 10x leverage results in 1 contract = 10 * the oracle provided price

- Maintenance Fee

  How much it costs to keep the position open every day. This should be a relatively low percentage value based on the initial amount used to purchase the contract. This amount is

deducted from profits and added for losses.

- Position limits

  Theres a chance that the pools could have low amounts of capital and that a large position could bankrupt a pool. The following safegaurds are implemented and decided by the pool creator.

  1. Position size

  The maximum amount a user can use to open a position. This a percentage based on the total pool size. For example, a $50m pool and a position limit of 1% means a trader can only place $500,000 into contracts.

  2. Profit thresholds

  The maximum rate of return a user can make from a position. Continuing the above example, a profit threshold of 300% means a position will automatically be closed when the traders contract value becomes worth $1.5m

  3. Utilization threshold

  This is defined by the position and profit thresholds. Continuing the example above, the fund can only have 33% of funds being reserved by a position at any one time if the profit threshold is set at 300%. If the profit threshold was reduced to 200%, the fund could utilise 50% of funds for positions.

  4. Liquidation threshold

  The factual liquidation threshold is the point in which the contract is unable to pay the maintenance fees if settled from the amount used within the contract. However with prices moving regularly, the calculated fees could amount to more than the contract value with extreme losses. The creator can set a threshold such as 10% which will trigger as soon as the value of the contract drops below this and can safely deduct fees and ensure payment to liquidity providers.

- Insurance fund

  For all profit made, the creator can set aside a % into an insurance fund. If there is a day

where the pool makes a loss (ie. pays out more to positions than it makes), the insurance fund can be used to cover losses. If the insurance fund is empty, liquidity providers will experience distributed loss amongst themselves.

Fund raising period

Before full deployment, the creator can set a period of time for which funding takes place and a minimum target required in order to deploy the market. The fund will only be deployed if the minimum target is hit and the time expires.

Claiming profits

This works like any yield farming strategy. Liquidity providers receive LP tokens which represent their shares in the pool. This share makes them eligible to claim a certain amount of profits based on the time and amount they have been involved in the pool for.