PROTOCOL WHITEPAPER

HORIZON

A Lending & Liquidity Platform

ALL PATHS LEAD TO SINGULARITY

horizon.win

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This document describes the current state and architecture of the Horizon protocol. It is intended for informational purposes and does not constitute financial advice, a solicitation, or an offer of securities.

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Introduction

Horizon is a lending and liquidity protocol built on Morpho and Gamma. Users lend, borrow, take leveraged positions, and provide concentrated liquidity through a single platform; revenue from those activities feeds a permissionless, contract-enforced buyback of the protocol's native token.

HORIZON is capped at 1 billion tokens, fully issued at genesis, and distributed exclusively through bonds. Bonds release HORIZON from inventory; protocol revenue and bond purchases trigger market buybacks that split 20% burn, 30% to stakers, 50% recycled to bond inventory. The supply mechanics are defined in code and operate perpetually within the cap.

The result is a protocol where every unit of activity, whether a loan, a trade, or a bond, produces deflationary pressure, staker yield, and deeper bond inventory in fixed proportions. Horizon is deployed on Ethereum and operates as a standalone lending and liquidity protocol.

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Protocol Overview

Horizon provides a unified platform for lending, borrowing, leveraged positions, and concentrated liquidity provision. The protocol captures value from multiple activity streams and routes it into permanent supply reduction, staker rewards, protocol-owned liquidity growth, and recycled bond inventory.

Core Functions

Earn Vaults. Users deposit supported assets into isolated lending markets and earn real yield generated from borrower interest, enhanced by optional NOVAE emission incentives.

Borrow Markets. Users deposit collateral into isolated lending markets and borrow supported assets at overcollateralized ratios, retaining market exposure to their underlying holdings.

Multiply. A recursive leverage system that automates the process of borrowing against collateral and redeploying capital to amplify exposure to a given asset, executed in a single transaction.

Liquidity Vaults. Automated concentrated liquidity vaults that manage positions across active price ranges, generating trading fees for depositors while deepening market liquidity for ecosystem assets.

Universal Buy and Burn. An automated engine that converts protocol USDx flow into open-market HORIZON purchases. Every HORIZON purchased splits 20% burn, 30% stakers, 50% bond inventory recycle.

Horizon Staking. Holders stake HORIZON for 28 to 3500 days to earn HORIZON rewards funded by protocol activity. Effective Shares scale with lock duration and HORIZON portfolio commitment. Rewards distribute through rolling 28-day and 369-day payout cycles. NOVAE staking mirrors the same structure.

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Core Design Principles

Horizon operates within a hard constraint: 1B HORIZON, fully issued at genesis, with circulation governed by bonds in and buybacks out. From that foundation, every mechanism converts protocol activity into permanent supply reduction, committed staker yield, and deeper protocol-owned liquidity. The principles below describe the design choices that compound value at every level of activity.

Capital Efficiency

Horizon is built on Morpho's lending infrastructure, which optimizes rate matching between lenders and borrowers. Concentrated liquidity vaults on Gamma further enhance capital efficiency by deploying assets within active price ranges rather than across the full price curve.

Deterministic Value Flow

All capital routing within Horizon follows contract-enforced allocation rules. When assets enter the system through bonds, platform revenue, or POL harvests, their distribution is governed by fixed percentage allocations that operate at the smart contract level. This deterministic approach ensures that participants can model expected protocol behavior with high confidence.

Sustainable Yield Generation

Base yield within Horizon originates exclusively from borrower interest and trading fees. The protocol explicitly separates interest-based yield from emission-based incentives in all user-facing disclosures. NOVAE emissions serve as supplemental incentives to support liquidity formation and market participation, alongside ongoing buyback pressure that supports the token's value floor.

Protocol-Owned Liquidity

A portion of every bond purchase is permanently deployed into protocol-owned liquidity positions across HORIZON/USDx and NOVAE/USDx pairs. POL is non-withdrawable and generates yield that flows back to stakers in their native assets, with NOVAE emissions captured by POL routed through the bond USDx flow to feed the main value engine.

Permissionless Integration

Horizon's yield-bearing hTokens are standard ERC-20 assets that may be used in external DeFi protocols as collateral, liquidity, or composable yield primitives. The protocol's modular architecture, built on Morpho for lending and Gamma for liquidity, supports integration by external builders.

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Protocol Architecture

The Horizon protocol comprises six primary subsystems that operate in concert to capture, route, and compound value across the ecosystem. Each component is designed to function independently while contributing to the protocol's aggregate economic output.

Earn Vaults

Earn Vaults are the primary entry point for lending capital. Each vault corresponds to a single deposit asset and supports a set of isolated lending markets with defined loan-to-value parameters. Depositors receive non-rebasing yield-bearing hTokens that appreciate in value as borrower interest accrues. The system is built on Morpho's lending infrastructure.

Borrow Markets

Borrow markets enable users to post collateral and borrow supported assets within isolated risk environments. Each market defines its own collateral type, loan-to-value ratio, liquidation threshold, and interest rate model. Interest is calculated per-second and compounded continuously, with the rate responding dynamically to market utilization.

Multiply

The Multiply system provides automated recursive leverage. Users deposit collateral, select a desired multiplier, and the protocol handles the looping process automatically in a single transaction. This enables users to amplify exposure to a given asset without manually executing multiple borrow-and-redeposit cycles.

Liquidity Vaults

Liquidity Vaults are automated concentrated liquidity positions built on Gamma. The vaults manage range selection, rebalancing, and fee compounding autonomously. Liquidity provision serves a dual function: generating trading fees for depositors and providing the market depth required for efficient liquidations and price discovery within the lending system.

Universal Buy and Burn Engine

The Universal Buy and Burn Engine is the protocol's deflationary core. USDx accumulates from bond purchases and platform revenue, then executes market buys of HORIZON through a permissionless caller-incentivised function. Every HORIZON bought is split 20% burn, 30% to HORIZON staker pools, 50% to bond inventory recycle.

Horizon Staking

Horizon Staking is a rolling-cycle reward distribution system. Users stake HORIZON for 28 to 3500 days, with Effective Shares determined by Principal multiplied by (1 + Lock Multiplier) and (1 + Loyalty Multiplier). Rewards are funded by 30% of every HORIZON buyback plus 100% of HORIZON harvested from HORIZON/USDx POL trading fees. Distributions run through two rolling pools at 28-day and 369-day cadences with 50/50 allocation. NOVAE staking mirrors the structure with NOVAE rewards.

Component Interaction

These subsystems interact through shared capital flows. Borrower interest generated in Earn Vaults creates protocol revenue that feeds the Buy and Burn Engine. Liquidity Vaults provide the market depth required for efficient liquidations in Borrow Markets. The Buy and Burn Engine's activity deepens liquidity for ecosystem tokens, improving execution quality for all participants. POL positions generate trading fees and NOVAE emissions that route back to stakers and into the main value engine. This circular architecture ensures that growth in any single component amplifies the performance of the system as a whole.

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Asset Flow Mechanics

Capital enters Horizon through deterministic pathways that maximize buy pressure, liquidity depth, supply reduction, and staker yield. All allocation percentages are enforced at the smart contract level.

Bond Deposit Routing

Users purchase bonds by depositing USDx. Every USDx that enters via a bond purchase splits as follows:

ALLOCATION	PERCENTAGE	DESTINATION
Buyback contract	78%	Market buy of HORIZON, then universal split
Treasury	12%	USDx held for operations and productive deployment
HORIZON/USDx POL	7%	Gamma vault, single-sided USDx zap
NOVAE/USDx POL	3%	Gamma vault, single-sided USDx zap

The Universal Value Split

Every HORIZON the protocol acquires through any buyback splits identically:

20% burned permanently. Removed from circulating supply forever.

30% to HORIZON staker pools. Distributed across rolling 28-day and 369-day cycles based on Effective Shares.

50% recycled to bond inventory. Becomes available for the next bonder. This recycle makes the mechanism perpetual within the fixed 1B cap.

Platform Revenue Routing

All platform revenue (vault performance fees, liquidity vault fees, liquidations, OEV, USDx portion of POL trading fees) is collected as USDx and split:

75% to buyback contract. Executes market buy of HORIZON, then enters the universal split.

25% to Treasury. USDx held for operations.

POL Harvest Routing

The protocol harvests revenue from its POL positions continuously. Four streams route to their appropriate destinations:

HORIZON trading fees from HORIZON/USDx. 100% to HORIZON staker pools.

NOVAE trading fees from NOVAE/USDx. 100% to NOVAE staker pools.

USDx trading fees from any POL position. Through Platform Revenue Routing (75% to buyback, 25% to Treasury).

NOVAE emissions earned by both POL positions. Routed through bond USDx 78/12/7/3 split, with NOVAE converted to USDx at the point of routing. The protocol's own farming activity feeds back into HORIZON buy pressure, Treasury USDx, and deeper POL on both pairs.

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Token Model

HORIZON Token

HORIZON is the protocol's primary value accrual token. It represents revenue capture, supply contraction, and yield rights within the ecosystem.

SPEC	VALUE
Total Fixed Supply	1,000,000,000
Minting Capability	None
Distribution Method	Bonds only
Bond Duration	28 to 88 days
Discount Range	5% to 20%

Fixed Supply. The total supply of HORIZON is fixed at 1,000,000,000 tokens, all of which were created at genesis. Genesis allocation: 800M distributed via bonds, 200M held by Treasury for strategic uses, audits, partnerships, and security reserves. A minting function does not exist.

Bond Distribution. HORIZON enters circulation exclusively through bonds. A user deposits USDx, selects a duration between 28 and 88 days, and receives HORIZON at a discount. The discount scales linearly: 5% at 28 days, 20% at 88 days. HORIZON vests linearly over the chosen duration. Bonders may claim vested HORIZON at any time and exit at any time, with the unvested portion forfeiting back to bond inventory.

Dynamic Discount Curve. The discount curve adjusts automatically based on aggregate vesting load. At extreme vesting load, the long-duration premium compresses to direct demand toward shorter durations. As vesting load returns to normal, the full curve restores. Discount is locked at bond purchase time.

Perpetual Operation. Every bond purchase triggers a buyback whose 50% recycle refills part of what was just bonded out. The mechanism operates indefinitely within the 1B cap.

NOVAE Token

NOVAE is the protocol's incentive token. Its function is to direct liquidity formation, lending participation, and borrowing utilization during Horizon's growth phase. NOVAE supports the ecosystem's activity engine while HORIZON serves as the primary value accrual token through fixed supply and ongoing buybacks.

Emission Schedule. NOVAE emits 2,800 tokens per day, allocated across four categories:

CATEGORY	ALLOCATION	DAILY NOVAE
Horizon Liquidity	40%	1,120
Horizon Earn	25%	700
Borrow Markets	25%	700
Treasury	10%	280

Buyback and Burn. 28% of platform trading fees on liquidity markets fund NOVAE buybacks. Every NOVAE bought splits 20% burn, 80% to NOVAE staker pools. NOVAE buy pressure also flows from the 3% bond USDx allocation to the NOVAE/USDx POL vault.

Supply Dynamics. NOVAE supply is determined by the interplay between fixed daily emissions and multiple buyback-and-burn mechanisms. The protocol tracks daily emissions, daily burns, and net supply change.

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Revenue and Value Accrual

Revenue Sources

Horizon generates protocol revenue from multiple activity streams operating concurrently across the platform:

Vault Performance Fees. A global 20% performance fee is applied to borrower interest generated within Earn Vaults. Earn Vault deposits and withdrawals are free of protocol fees.

Liquidity Vault Fees. Liquidity farms apply a 0.5% fee on withdrawals (deposits are free) which contributes to buyback flow. 28% of platform trading fees generated by liquidity vaults are allocated to NOVAE buyback and burn.

Borrow Interest Spreads. The spread between borrow rates and supply rates, after accounting for utilization and the performance fee, generates protocol revenue routed to the Buy and Burn Engine.

Liquidation Fees. A protocol-defined liquidation fee on each liquidation event, distributed between the Earn Vault, the Buy and Burn mechanism, and the Treasury.

Oracle Extractable Value (OEV) Capture. Value generated from oracle updates that enable liquidations. Proceeds are distributed between vault depositors, Buy and Burn, and Treasury.

Revenue Allocation

All protocol revenue is routed into the Universal Buy and Burn Engine via Platform Revenue Routing: 75% to the buyback contract, 25% to Treasury. The buyback contract accumulates USDx and executes permissionless market buys of HORIZON, which then enter the universal 20/30/50 split.

> **KEY ALLOCATION RULE**
>
> 20% of all buyback HORIZON is permanently burned. 30% flows to HORIZON staker pools. 50% recycles to bond inventory.
>
> This ratio is constant and applied uniformly across all revenue sources.

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Earn Vault System

Architecture

Each Earn Vault corresponds to a single deposit asset and supports a defined set of collateral and borrow markets operating within specified loan-to-value limits. The system supports vaults for Ethereum (hWETH), USDC (hUSDC), USDT (hUSDT), and USDx (hUSDx), each with market-specific risk parameters.

Deposit Lifecycle

When a user deposits an asset into its corresponding Earn Vault, the asset is supplied to the lending market and becomes available for borrowing. The protocol mints a non-rebasing ERC-20 yield-bearing token (hToken) to the depositor. hTokens represent a proportional claim on the vault's total assets and appreciate in value over time as interest accrues, rather than increasing in balance. This design enables full composability with external DeFi protocols.

Yield Generation

Yield is generated exclusively from borrower interest and is optimized through Morpho's matching engine. Interest accrues continuously and is reflected in the increasing exchange rate between hTokens and the underlying asset. Horizon applies a global 20% performance fee on borrower interest, which is routed through Platform Revenue Routing.

Withdrawal Mechanics

Users may redeem hTokens for the underlying asset plus accrued interest at any time. Withdrawals are subject to available vault liquidity and current market utilization. During periods of high utilization, withdrawals may be temporarily limited due to active borrowing within the market.

Incentives

In addition to borrower interest, eligible hToken holders may receive rewards from the NOVAE emission pool. These incentives complement rather than replace base yield.

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Borrow Markets

Market Structure

Horizon's borrow markets operate as isolated lending environments, each defining a specific collateral-loan asset pair with independently configured risk parameters. This isolation ensures that risk in one market remains contained, protecting lenders from cross-market exposure.

Collateral Types and Loan-to-Value Ratios

The protocol supports a range of collateral assets including WETH, WBTC, WSTETH, HORIZON, and other supported tokens. Loan-to-value ratios are calibrated per market based on asset volatility, liquidity depth, and risk profile, ranging from 40% for higher-volatility tokens to 90% for established assets such as WETH and WBTC.

HORIZON qualifies as collateral in lending markets through its USDx pairing, which provides predictable price behavior under stress and direct liquidation against USDx liquidity.

Interest Rate Model

Each market employs an Interest Rate Model (IRM) that outputs a per-second borrow rate responding dynamically to market utilization. The rate is continuously compounded to produce the Borrow APY. Supply APY is derived from the Borrow APY after accounting for utilization and the protocol performance fee. Horizon explicitly separates interest-based yield from emission-based incentives in all user-facing disclosures.

Liquidation Mechanics

Liquidation is triggered when a borrower's loan-to-value ratio exceeds the market's defined Liquidation Loan-to-Value (LLTV) threshold. Horizon inherits Morpho's liquidation framework, which supports two complementary paths:

Standard Liquidation. The default mechanism. Any external actor may repay part or all of the borrower's debt in exchange for collateral valued at the oracle price plus a Liquidation Incentive Factor derived from the market's LLTV. Permissionless, first-come-first-served.

Pre-Liquidation. An optional, borrower-enabled mechanism that allows gradual, partial deleveraging before reaching the LLTV threshold. Creates a buffer zone that reduces borrower losses during volatile markets.

Repayment

Borrowers may repay loans at any time. The protocol also supports a pay-with-collateral feature that allows borrowers to repay loans by selling a portion of their posted collateral, enabling debt reduction without requiring external capital.

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Multiply System

Mechanism

Multiply is Horizon's recursive leverage system. It automates the process of depositing collateral, borrowing against it, purchasing additional collateral with the borrowed funds, and repeating the cycle. Users select a desired multiplier using a slider interface, confirm the transaction, and the protocol handles the entire looping process in a single on-chain transaction.

Capital Amplification

Through recursive leverage, users can amplify their exposure to a given asset using their existing capital. The effective exposure is determined by the selected multiplier, which is constrained by the market's loan-to-value parameters. Users earn NOVAE rewards based on their total leveraged position value, creating an incentive to utilize the feature.

Risk Considerations

IMPORTANT RISK NOTICE

Leveraged positions carry amplified risk. A decline in collateral value affects the entire leveraged position, and liquidation can result in a larger absolute loss than on an unleveraged position. The pre-liquidation mechanism, when enabled, provides a graduated safety buffer. Users should carefully evaluate their risk tolerance and monitor Health Factor.

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Liquidity Vaults

Architectural Foundation

Horizon Liquidity is built on Gamma, a vault management system that runs concentrated liquidity positions across supported AMM protocols. Gamma provides automated range management, rebalancing, fee compounding, and single-sided deposit handling through its zap functionality.

Automated Vault Strategies

Participants deposit assets into vaults, and the vault deploys and manages liquidity within active price ranges. The vault automatically selects and adjusts price ranges, rebalances positions, and compounds earned fees. The Zap feature enables single-token entry and exit, automatically creating and unwinding balanced liquidity positions. This results in higher capital efficiency and consistently active liquidity through automated position management.

Liquidity as Risk Infrastructure

Within Horizon, liquidity depth directly supports lending market stability. Deep and responsive liquidity reduces slippage during liquidations, improves execution reliability under stress, supports accurate pricing, limits bad debt formation, and enables more efficient collateral parameters. Horizon Liquidity therefore functions as both a yield-generation engine and core risk infrastructure for the lending system.

Protocol-Owned Liquidity

The protocol operates two POL pairs as its own LP: HORIZON/USDx and NOVAE/USDx. Bond USDx routes 7% to HORIZON/USDx and 3% to NOVAE/USDx as single-sided deposits. Gamma vaults handle pair acquisition automatically through market swaps. POL is non-withdrawable and continues to deepen as bond volume scales.

Fee Distribution

Platform trading fees generated by liquidity vaults are distributed as follows: 72% to liquidity providers and 28% to NOVAE buyback and burn. Liquidity farms apply a 0.5% fee on withdrawals (no deposit fee), which contributes to Horizon's buy-and-burn mechanism.

Multi-Chain Deployment

Gamma's architecture allows Horizon Liquidity to deploy across multiple EVM-compatible networks while preserving consistent economic logic. Horizon Liquidity may operate on Ethereum, Base, Sonic, BNB Chain, Polygon, Arbitrum, and Optimism, with each deployment maintaining protocol-defined fee routing and incentive logic.

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Universal Buy and Burn Engine

Mechanism

The Universal Buy and Burn Engine is Horizon's primary deflationary mechanism. USDx accumulates in the buyback contract from bond purchase routing and platform revenue routing. The buyback function becomes callable when two conditions are met: time elapsed since last call exceeds the configured interval, and USDx balance meets or exceeds the configured per-call swap cap.

Permissionless Execution

Any address may call the buyback function when eligible. The caller receives a percentage of the swapped USDx as compensation (default 0.5%). The remainder executes the market swap to HORIZON and enters the universal split. The caller fee creates a sustained economic incentive for bots and third parties to monitor the contract and execute buybacks reliably.

The same mechanism governs NOVAE buybacks, with parameters set independently for the NOVAE buyback contract.

Allocation Rule

BUYBACK ALLOCATION

All HORIZON buybacks follow the universal value split: 20% permanently burned, 30% to HORIZON staker pools, 50% recycled to bond inventory. NOVAE buybacks split 20% burn, 80% to NOVAE staker pools.

This allocation is constant and applied uniformly across all revenue sources and buyback triggers.

Long-Term Supply Effects

Continuous operation of the Buy and Burn Engine creates persistent downward pressure on HORIZON circulating supply through the 20% burn on every buyback, while the 50% recycle refills bond inventory and the 30% to stakers compounds yield to committed holders. As protocol usage grows, revenue increases, buyback volume increases, and the mechanism scales with platform activity within the fixed 1B cap.

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Staking System

HORIZON Staking

HORIZON holders may stake their tokens to receive their share of staker allocations from buyback flow and POL harvested HORIZON.

Staking Parameters

PARAMETER	VALUE
Stake Duration	28 to 3500 days
Distribution Token	HORIZON
Lock Multiplier	0% at 28 days, scaling linearly to +350% at 2888 days
Loyalty Multiplier	+10% to +50% based on HORIZON portfolio share

Effective Shares. A staker's Effective Shares determine their proportional claim on each distribution pool.

Effective Shares = Principal × (1 + Lock Multiplier) × (1 + Loyalty Multiplier)

Reward Sources. 30% of every HORIZON the protocol buys via the universal value split, plus 100% of HORIZON harvested from HORIZON/USDx POL trading fees.

Rolling Payout Cycles

All HORIZON destined for stakers flows into two rolling payout pools with 50/50 allocation between them:

POOL	CADENCE	ALLOCATION
Short Cycle	Every 28 days	50%
Long Cycle	Every 369 days	50%

Cycle Eligibility and Activity

Stakers active on a cycle distribution date qualify for that distribution. Active means the staker has stake principal in the contract and has claimed within the 36-day inactivity threshold. Eligibility is checked at the moment of each distribution. A staker's share of each pool is calculated based on their Effective Shares as a proportion of total Effective Shares at the distribution snapshot.

A staker becomes inactive if they fail to claim within 36 days of a distribution they qualified for. Inactive stakes resume earning from subsequent distributions once reactivated by claiming. Reactivation applies forward only; missed distributions during inactivity redirect to active stakers.

NOVAE Staking

NOVAE staking mirrors HORIZON staking structurally. 28 to 3500 day locks. Same Lock Multiplier curve. Same Loyalty Multiplier tiers, calculated on HORIZON portfolio share since HORIZON is the value-accrual token. Two rolling payout cycles at 50/50 split. Same 36-day inactivity threshold.

NOVAE staker rewards flow from two sources: 80% of every NOVAE the protocol buys via buyback, and 100% of NOVAE harvested from NOVAE/USDx POL trading fees.

Reflexive Yield Design

Staker rewards are paid in HORIZON sourced from open-market buybacks funded by platform activity, plus HORIZON earned through POL operations. The yield mechanism is structurally aligned with token deflation: every distribution to a staker is HORIZON the protocol just acquired on market, while 20% of the same buyback flow is burned permanently.

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Incentive System

NOVAE Emission Framework

NOVAE emissions are distributed at a fixed rate of 2,800 tokens per day, allocated across four categories with fixed weighting: Horizon Liquidity (40%), Horizon Earn (25%), Borrow Markets (25%), and Treasury (10%).

Reward Distribution

Within each market, rewards are distributed proportionally using a weight-based share model. Each participant's Effective Shares are determined by their principal contribution, Loyalty multiplier, and Referral multiplier.

User Reward = (User Effective Shares ÷ Total Effective Shares) × Market Emissions

Loyalty Program

The Loyalty Program rewards users who hold HORIZON relative to their total protocol portfolio. Four tiers are defined:

TIER	HORIZON SHARE	REWARD BOOST
Base	0 to 1%	No boost
Silver	1 to 5%	+10%
Gold	5 to 10%	+25%
Platinum	10%+	+50%

Loyalty multipliers are evaluated and updated daily with forward-only application, ensuring that long-term commitment is rewarded while keeping reward weight responsive to current portfolio commitment.

Referral Program

The Referral Program adds a multiplier to effective shares in NOVAE Earn, Borrow, and Liquidity. HORIZON staking is buyback-funded and sits outside this framework.

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Risk Management

Overcollateralization

All borrowing positions within Horizon are overcollateralized. Loan-to-value ratios are calibrated per market based on asset volatility, liquidity depth, and historical price behavior, with more volatile assets requiring lower LTV ratios to provide adequate safety margins.

Isolated Markets

Each borrow market operates as an isolated lending environment with independently configured risk parameters. This architecture ensures that a liquidation cascade or bad debt event in one market remains contained, protecting lenders and the broader system from cross-market contagion.

Liquidation Thresholds and Incentives

Each market defines a Liquidation Loan-to-Value (LLTV) threshold. Positions exceeding this threshold become eligible for permissionless liquidation. The Liquidation Incentive Factor is derived from the LLTV and provides a structured reward for liquidators that scales with market risk parameters. The optional pre-liquidation mechanism provides additional graduated protection for borrowers who opt in.

Oracle Price Feeds

All collateral valuations and liquidation checks rely exclusively on oracle prices defined for each market. Oracle prices are normalized using a fixed scaling factor. Horizon captures Oracle Extractable Value generated during oracle updates that enable liquidations, routing the proceeds to vault depositors, the Buy and Burn mechanism, and the Treasury.

Bad Debt Handling

Horizon inherits Morpho's vault-level bad debt handling behavior. Under MetaMorpho V1.0, bad debt is realized immediately and losses are socialized proportionally among lenders, with markets remaining usable. Under MetaMorpho V1.1, bad debt remains unrealized in the market until resolved. Vault versioning and risk parameters are disclosed per market.

Protocol Reserves

The Treasury maintains capital reserves designated for predefined adverse scenarios including oracle disruption, emergency pause conditions, and severe market dislocations. Deployment under the risk buffering mandate is limited to stabilization actions. Treasury asset management prioritizes liquidity, capital preservation, and protocol continuity.

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Security Model

Smart Contract Design

Horizon's core economic mechanics, including supply cap, bond distribution, universal value split, and allocation rules, are enforced at the smart contract level through immutable code. Critical guarantees enforced on-chain include: fixed maximum supply, deterministic bond distribution, deterministic value split, deterministic routing across all flows, and contract-driven buyback execution.

Infrastructure Dependencies

The lending system is built on Morpho's audited lending contracts, inheriting the security properties of that infrastructure. The liquidity system is built on Gamma, an audited concentrated liquidity vault system. These infrastructure choices leverage battle-tested codebases rather than building equivalent functionality from scratch.

Operational Security

Buyback execution runs through a permissionless caller-incentivised function, eliminating dependence on centralized operators for value distribution. Bond purchases, vesting, claims, and forfeits execute deterministically through smart contracts. The Treasury operates within its stated mandates and remains outside the user-facing value flow.

Audits

Audit details and verified contract addresses are published in the protocol's documentation. The Treasury's operational mandate includes allocation toward independent audits, ongoing security assessments, and monitoring systems to support long-term protocol reliability and transparency.

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Ecosystem Integration

Composable Yield Tokens

Horizon's hTokens are standard ERC-20 assets that can be integrated into external DeFi protocols as collateral, liquidity, or yield-bearing primitives. This composability allows ecosystem builders to leverage Horizon's lending infrastructure through standard token interfaces.

Liquidity Routing

Gamma's vault architecture allows incentive logic, fee routing, and accounting extensions to integrate directly with liquidity markets. External protocols can benefit from the liquidity depth that Horizon provides to ecosystem trading pairs.

Collateral Support

Horizon's isolated market architecture allows new collateral types to be introduced through market creation. The protocol supports established DeFi assets such as WETH, WBTC, WSTETH, USDC, and USDT, alongside HORIZON, NOVAE, and other supported tokens.

Omnichain Expansion

Horizon supports Omnichain Fungible Token (OFT) functionality, enabling cross-chain token transfers and positioning the protocol for multi-chain deployment. Combined with Gamma's architecture, this allows Horizon's economic logic to extend across EVM-compatible networks while maintaining consistent fee routing and incentive structures.

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Conclusion

Horizon is structured around a single commitment: the rules don't change. HORIZON is capped at 1 billion tokens, fully issued at genesis, and distributed only through bonds. Every dollar that flows through the protocol triggers a market buyback that splits 20% burn, 30% to stakers, 50% to bond inventory. These ratios are enforced in code and apply uniformly across every revenue source.

Built on audited lending infrastructure from Morpho and concentrated liquidity from Gamma, Horizon unifies lending, borrowing, leveraged positions, and liquidity provision into a single platform. Borrower interest, trading fees, and bond purchases all feed the same buyback engine. Protocol revenue compounds in three places at once: permanent supply reduction through burns, real yield to stakers, and deeper protocol-owned liquidity across the HORIZON/USDx and NOVAE/USDx pairs.

Horizon is deployed on Ethereum and operates as a standalone lending and liquidity protocol. The mechanics described in this document are the production architecture of v2.

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