

NOVA CHAIN

Technical Whitepaper
The Zero-Fee EVM Blockchain for Everyone

Version 1.0 — April 2026

Founded by Martin Kovacic

Chain ID nova_9000-1	Token NOVA	Supply 1,000,000,000	Tx Fees Zero
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novachain.network

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1. Executive Summary

Nova Chain is a next-generation, EVM-compatible blockchain built on the Cosmos SDK, designed to make decentralized finance, gaming, and Web3 applications accessible to everyone through zero transaction fees, high performance, and a rich ecosystem of native applications.

Founded by Martin Kovacic, Nova Chain eliminates the single biggest barrier to blockchain adoption — transaction fees. By implementing a governance-controlled zero-fee model backed by a sustainable tokenomics framework, Nova Chain enables unlimited on-chain activity without cost to users.

Key Highlights:

- Zero transaction fees — permanently enshrined via on-chain governance
- Full EVM compatibility — all Ethereum tools, wallets, and contracts work natively
- Cosmos SDK security — battle-tested consensus with CometBFT (Tendermint)
- NovaDEX — native AMM decentralized exchange with NOVA/USDT liquidity
- Nova Bridge — trustless cross-chain bridge connecting BSC and Nova Chain
- PancakeSwap listed — NOVA tradeable on the world's largest DEX on BSC
- 1 billion NOVA supply with deflationary NovaBurn protocol
- Governance-first — all protocol changes decided by NOVA holders

2. Introduction & Vision

The Problem

Blockchain technology promised to democratize finance and digital ownership. Yet today, the average user pays \$5-50 in gas fees for simple transactions on Ethereum, and even BSC charges fees that accumulate to significant costs for active users. These fees create two classes of blockchain participants: those who can afford to transact and those who cannot.

For gaming applications, micropayments, and everyday DeFi usage, transaction fees are not just an inconvenience — they are an existential barrier. A game that charges \$0.50 per in-game action will never achieve mainstream adoption. A DeFi protocol where rebalancing costs more than the yield earned is unusable for small investors.

The Nova Chain Solution

Nova Chain was built from the ground up with a single core principle: blockchain infrastructure should be free to use. By combining the EVM's unmatched developer ecosystem with Cosmos SDK's proven security model, and eliminating fees through sustainable tokenomics, Nova Chain creates a platform where anyone, anywhere, can participate in Web3 without financial barriers.

Our Vision

"To build the world's most accessible blockchain — where every person, regardless of wealth or geography, can participate in the decentralized economy at zero cost."

3. Technology Architecture

Nova Chain is built on a hybrid architecture that combines the best of two worlds: the EVM's unmatched smart contract ecosystem and Cosmos SDK's modular, secure consensus layer.

Architecture Stack

Layer	Technology
Consensus	CometBFT v0.38 (Tendermint BFT)
Application	Cosmos SDK v0.53
EVM Engine	Ethermint (go-ethereum compatible)
Smart Contracts	Solidity 0.8.x (EVM bytecode)
P2P Network	libp2p with TCP/WebSocket
RPC	Ethereum JSON-RPC + Cosmos REST API
Indexer	Blockscout v10

Network Endpoints

EVM JSON-RPC	https://rpc.novachain.network
WebSocket	wss://rpc.novachain.network/ws
Block Explorer	https://explorer.novachain.network
DEX	https://dex.novachain.network
Bridge	https://bridge.novachain.network
Chain ID (EVM)	9000
Chain ID (Cosmos)	nova_9000-1

4. Nova Chain EVM Layer

Nova Chain implements a full Ethereum Virtual Machine, enabling complete compatibility with the existing Ethereum developer ecosystem. Any smart contract deployed on Ethereum or BSC can be deployed on Nova Chain without modification.

EVM Compatibility

- Full Solidity and Vyper smart contract support
- MetaMask, TokenPocket, and all EVM wallets work natively
- Hardhat, Foundry, Truffle development frameworks supported
- OpenZeppelin contracts deploy without changes
- Web3.js and ethers.js libraries fully compatible
- ERC-20, ERC-721, ERC-1155 token standards supported
- Uniswap V2 forks and DeFi protocols deployable

Performance

Block Time	~6 seconds
Finality	Instant (BFT consensus)
TPS	1,000+ transactions per second
EVM Target	Cancun (latest)
Gas Limit	Standard Ethereum compatible

4.1 Transaction Lifecycle

Understanding how a transaction flows through Nova Chain helps developers build better applications and validators understand their role in the network.

- 1. Submission:** User signs a transaction with their EVM wallet and broadcasts it to `rpc.novachain.network`
- 2. Mempool:** Transaction enters the mempool and propagates to all validators via P2P network
- 3. Block Proposal:** Block proposer (CometBFT round-robin) includes transaction in next block
- 4. Voting:** All validators verify and vote — 2/3+ weighted votes required to commit
- 5. Execution:** EVM executes transaction, updating account balances and contract state
- 6. Finality:** Block committed — transaction instantly final, no reversal possible
- 7. Indexing:** Blockscout indexes transaction, visible on `explorer.novachain.network`

4.2 Dual Account Model

Nova Chain uses a dual account model — the same private key generates both an EVM address (0x format) and a Cosmos address (evmos1 bech32 format). This allows seamless interaction with both EVM tools (MetaMask) and Cosmos SDK tooling (evmosd CLI).

Key Algorithm	secp256k1 (Ethereum standard)
EVM Address Format	0x... (20 bytes hex)
Cosmos Address Format	evmos1... (bech32)
Address Prefix	evmos
Wallet Compatibility	MetaMask, TokenPocket, Keplr, Leap

4.3 Smart Contract Deployment

Deploying smart contracts on Nova Chain works identically to Ethereum. Use any standard Ethereum development framework with this network configuration:

```
// hardhat.config.js
```

```
networks: {
```

```
nova: {  
  url: "https://rpc.novachain.network",  
  chainId: 9000,  
  accounts: [process.env.PRIVATE_KEY]  
}  
  
// Deploy command  
  
npx hardhat run scripts/deploy.js --network nova
```

5. Consensus Mechanism

Nova Chain uses CometBFT (formerly Tendermint BFT), a Byzantine Fault Tolerant consensus algorithm that provides instant finality and deterministic block production.

How It Works

Unlike Proof of Work (Bitcoin) or probabilistic finality chains, CometBFT provides absolute finality. Once a block is committed, it cannot be reversed. This makes Nova Chain ideal for financial applications where settlement certainty is critical.

Algorithm	Byzantine Fault Tolerant (BFT)
Validator Set	Up to 100 validators
Current Validators	2 (nova, SUPER)
Fault Tolerance	Up to 1/3 of validators can fail
Finality	Instant — no reorgs possible
Block Production	Round-robin with weighted voting
Staking Token	NOVA (anova denom)
Unbonding Period	21 days

6. NOVA Token Economics

NOVA is the native utility and governance token of Nova Chain. It is used for staking, governance voting, and as the gas token for transactions (at zero cost).

Token Details

Token Name	Nova
Symbol	NOVA
Total Supply	1,000,000,000 (1 billion)
Decimals	18 (EVM) / 6 (Cosmos anova)
Contract (BSC)	0xddC06f4d754408cCB96Bc36afa2eB4CcefaE48db
Chain Denom	anova (1 NOVA = 10 ¹⁸ anova)
Initial Price	\$1.00 USD
PancakeSwap Pair	NOVA/USDT

Token Distribution

Category	Allocation	Amount	Vesting
Staking Rewards	40%	400,000,000	Emitted over 10 years
Ecosystem Fund	20%	200,000,000	Governance controlled
Team & Founders	15%	150,000,000	2 year cliff, 3 year vest
Community Airdrop	10%	100,000,000	12 months linear
Liquidity Provision	10%	100,000,000	DEX & CEX liquidity
Reserve	5%	50,000,000	Emergency multisig

7. Zero Fee Model

Nova Chain is the first EVM-compatible blockchain to implement permanent zero transaction fees through on-chain governance. This was achieved by setting `no_base_fee=true` and `min_gas_price=0` via a governance proposal passed unanimously by all validators.

Technical Implementation

The Ethereum fee market (EIP-1559) was disabled via the `feemarket` module parameter update. Users can submit transactions with `gas_price=0` and they will be included in blocks normally. Validators are compensated through staking rewards rather than transaction fees.

Governance Record:

Proposal #1: "Enable Zero Gas Fees" — PASSED unanimously

Transaction: `base_fee` set to 0, `no_base_fee` set to true

Date: April 3, 2026 | Chain: nova_9000-1

Why Zero Fees Are Sustainable

Traditional blockchains rely on fees to compensate validators. Nova Chain replaces this with staking inflation — validators earn newly minted NOVA tokens proportional to their stake. This creates a sustainable incentive model where validators are rewarded for securing the network without charging users.

Year 1	1,000,000,000	~15,000,000	~11%
Year 2	985,000,000	~20,000,000	~9%
Year 3	965,000,000	~28,000,000	~7%
Year 5	910,000,000	~40,000,000	~3%
Year 10	~750,000,000	~50,000,000	~0%

9. Validator Incentive Framework

Nova Chain supports up to 100 validators. To attract high-quality, long-term validators and make early participation highly rewarding, Nova Chain implements the Nova Proof-of-Participation (NovaPOP) model — a comprehensive validator incentive program that rewards performance, loyalty, and community contribution.

9.1 How Validators Earn

With zero transaction fees, validators earn exclusively through staking emissions. Nova Chain mints new NOVA tokens each block and distributes them to validators and their delegators proportional to stake. The base annual inflation starts at 13% of bonded supply, declining over time as the chain matures.

Staking Emission	13% APR on bonded NOVA (base rate, Year 1)
Commission	Validator-set rate on delegator rewards (1-20%)
Tier Bonus	Up to +20% monthly on top of base emission
Founding Bonus	+2% permanent commission for first 20 validators
Community Pool	Rotating 50M NOVA delegation from foundation
Referral Bonus	+0.5% for 6 months per referred delegator

9.2 Validator Tier System

Validators are ranked monthly based on performance metrics and rewarded with bonus emissions from the ecosystem fund. Tiers are recalculated at the start of each calendar month.

Tier	Uptime Req.	Min Delegation	Governance	Bonus
Diamond	99%+	500,000 NOVA	All proposals voted	+20%/month
Gold	95%+	100,000 NOVA	80%+ votes cast	+10%/month
Silver	90%+	50,000 NOVA	60%+ votes cast	+5%/month
Bronze	Active	Any amount	No requirement	Base only

9.3 Founding Validator Program (First 20)

The first 20 validators to join Nova Chain receive permanent founding benefits that can never be removed by governance. These benefits recognize early validators for taking the risk of joining a new chain and helping build the ecosystem.

Founding Validator Benefits (Permanent):

1. +2% permanent commission bonus on top of self-set rate
2. "Founding Validator" NFT badge on explorer.novachain.network
3. Priority listing on novachain.network/validators page
4. 1.5x voting weight on protocol upgrade proposals
5. Access to 50,000,000 NOVA Community Delegation Pool (monthly rotation)
6. Listed in Nova Chain whitepaper and official documentation
7. Direct communication channel with Nova Chain core team

Currently active founding validators: nova, SUPER

Remaining founding validator slots: 18

9.4 Community Delegation Pool

Nova Chain Foundation allocates 50,000,000 NOVA (5% of total supply) as a Community Delegation Pool. This pool is delegated to top-performing validators on a monthly rotation basis, giving validators who cannot yet attract large organic delegations a significant boost.

Pool Size	50,000,000 NOVA
Selection Criteria	Uptime, governance participation, community score
Rotation Period	Every 30 days
Max Recipients	10 validators per cycle
Max Per Validator	5,000,000 NOVA per cycle

Managed By

Nova Chain Foundation multisig

9.5 Delegator Loyalty Multipliers

To reduce sell pressure and reward long-term believers, delegators who lock their NOVA for extended periods receive amplified APY through loyalty multipliers. Longer commitments earn disproportionately higher rewards.

Lock Period	APY Multiplier	Example (13% base)
No lock (flexible)	1x	13% APY
30 days	1.25x	16.25% APY
90 days	1.5x	19.5% APY
180 days	2x	26% APY
365 days	3x	39% APY

9.6 Delegator Referral Program

Each validator receives a unique referral code. When new delegators join using a validator's code, both the validator and delegator receive bonus rewards.

Validator Bonus	+0.5% APR bonus for 6 months per referred delegator
Delegator Bonus	+1% APY bonus for first 90 days
Minimum Delegation	100 NOVA to qualify for referral bonus
Maximum Bonus	Uncapped — more referrals = more bonus

9.7 Monthly Validator Report Card

Nova Chain publishes a public monthly report card for every validator, visible on the explorer. Validators with perfect scores are featured on the Nova Chain homepage and receive additional community delegation.

- Uptime percentage (blocks signed vs missed)
- Governance participation rate (proposals voted on)
- Total delegators count and growth

- Community score (social, technical contributions)
- Tier achieved for the month
- Blocks produced and validator rank

9.8 How to Become a Validator

Anyone can become a Nova Chain validator by running the open-source node software and submitting a create-validator transaction. The process takes approximately 30-60 minutes on a standard Linux server.

Quick Setup:

1. Clone: `git clone https://github.com/seolocaly/novaevm.git`
2. Build: `cd novaevm && make install`
3. Init: `evmosd init YOUR_MONIKER --chain-id nova_9000-1`
4. Genesis: Download from <http://49.12.131.149:26657/genesis>
5. Config: Set seeds = "e9b436722026bb7cc399d4bbf30305684a99e29f@49.12.131.149:26656"
6. Start: `systemctl start evmosd`
7. Create validator transaction (requires NOVA tokens for self-delegation)

Full guide: novachain.network/validators

Source code: github.com/seolocaly/novaevm

Minimum Hardware: 4 CPU cores, 16GB RAM, 500GB SSD, 100Mbps network

10. NovaDEX — Decentralized Exchange

NovaDEX is a native Uniswap V2-compatible automated market maker (AMM) deployed on Nova Chain. It enables permissionless token swaps, liquidity provision, and price discovery — all with zero transaction fees.

How NovaDEX Works

NovaDEX uses the constant product formula $x * y = k$ to determine swap prices. Liquidity providers deposit equal values of two tokens into a pool and receive LP tokens representing their share. Every swap charges a 0.3% fee distributed to liquidity providers.

Deployed Contracts

WNOVA	0x9F831b55700B6FddA59a86166f65313C071C9861
WUSDT	0x15F1b065f72fA764B92f3E2412ed03cA88fD8bf9
Factory	0xe5Cf63eea0Cba17302dAFeC71c3953c766589238
NOVA/USDT Pair	0x10E221100421Bb5499D98aEf574BA853DB04645d
DEX URL	https://dex.novachain.network

Also Available On

NOVA is listed on PancakeSwap (BSC) with a NOVA/USDT trading pair, providing liquidity and price discovery on the world's largest DEX.

PancakeSwap (BSC):

Token: 0xddC06f4d754408cCB96Bc36afa2eB4CcefaE48db

Pair: NOVA/USDT | Initial Price: \$1.00

URL:

pancakeswap.finance/swap?outputCurrency=0xddC06f4d754408cCB96Bc36afa2eB4CcefaE48db

11. Nova Bridge — Cross-Chain Infrastructure

Nova Bridge is a trustless lock-and-mint bridge connecting Nova Chain to BSC, enabling users to move assets freely between chains. A 24/7 automated relayer service monitors both chains and processes bridge transactions in approximately 30 seconds.

Supported Bridge Routes

NOVA (Native)	Nova Chain → BSC NOVA token
BSC NOVA	BSC → Native NOVA on Nova Chain
USDT (BSC)	BSC USDT → Bridged USDT on Nova Chain
Bridged USDT	Nova Chain → Real USDT on BSC

Bridge Contracts

NOVA Lock (Nova)	0x6724Cd1D897461379eDcB5Ed5c44DC5a7ac991A9
NOVA Token (BSC)	0xddC06f4d754408cCB96Bc36afa2eB4CcefaE48db
USDT Locker (BSC)	0x1FEBcF7610Ec0e003cEb209D97298E1953A71083
USDT Minter (Nova)	0x68102fEBEEc63e423C02eBc47a06a7E7eB3092B4
Bridge URL	https://bridge.novachain.network
Bridge Fee	0% (Zero fees)

12. Ecosystem & Products

Product	Description	Status
Nova Chain	Layer 1 EVM blockchain — the foundation	LIVE
NovaDEX	Native AMM DEX for token swaps	LIVE
Nova Bridge	Cross-chain bridge to BSC	LIVE
Nova Explorer	Block explorer powered by Blockscout	LIVE
Nova RPC	Public EVM JSON-RPC endpoint	LIVE
PancakeSwap	NOVA/USDT trading pair on BSC	LIVE
Nova Wallet	Mobile wallet for NOVA Chain	Q2 2026
Nova Marketplace	NFT Trade NFTs on Nova Chain	Q3 2026
Nova Gaming SDK	Tools for game developers	Q3 2026
Nova Lending	Decentralized lending protocol	Q4 2026

13. Roadmap

Phase 1 — Foundation (Q1 2026) [COMPLETE]

- Nova Chain mainnet launch
- 2 validators (nova, SUPER) — fully bonded
- Zero fee governance proposal passed
- Blockscout explorer deployed
- NovaDEX live with NOVA/USDT pair
- Nova Bridge to BSC live
- NOVA listed on PancakeSwap

Phase 2 — Growth (Q2 2026) [IN PROGRESS]

- 20 validators onboarded
- CoinGecko and CoinMarketCap listing
- novachain.network website launch
- Nova Wallet mobile app
- Validator tier system implementation
- Community delegation pool live
- Additional DEX pairs (NOVA/BNB, NOVA/ETH)

Phase 3 — Expansion (Q3 2026) [UPCOMING]

- NFT marketplace launch
- Gaming SDK release
- Bridge to Ethereum mainnet
- Cross-chain governance
- IBC integration (Cosmos ecosystem)
- 100 validators target

Phase 4 — Maturity (Q4 2026+) [PLANNED]

- Nova Lending protocol
- Institutional validator program
- Layer 2 scaling solutions
- DAO governance transition
- Deflationary milestone burns

14. Security

Nova Chain inherits the security properties of CometBFT consensus and the Cosmos SDK, both of which have secured billions of dollars in value across dozens of production blockchains since 2019.

BFT Consensus: Tolerates up to 1/3 of validators being malicious or offline

Instant Finality: No probabilistic finality — blocks cannot be reversed once committed

Validator Slashing: Validators lose stake for double-signing or extended downtime

Governance Guards: Protocol changes require on-chain governance — no admin keys

EVM Security: Battle-tested go-ethereum code base with years of security audits

Bridge Security: Lock-and-mint with event verification — relayer cannot mint without proof

Open Source: All code open-sourced at github.com/seolocaly/novaevm

15. Team & Governance

Founding Team

Martin Kovacic — Founder & Lead Developer

Blockchain architect and full-stack developer with expertise in EVM chains,

Cosmos SDK, DeFi protocols, and cross-chain infrastructure.

GitHub: github.com/seolocaly

Chain: nova_9000-1

Governance

Nova Chain is governed entirely on-chain by NOVA token holders. Any protocol change, parameter update, or treasury spending requires a governance proposal to pass with quorum (33.4% of voting power) and threshold (50% yes votes).

Voting Period	5 minutes (governance-set, adjustable)
Quorum	33.4% of total staked NOVA
Threshold	50% YES votes to pass
Veto Threshold	33.4% NO WITH VETO to reject
Min Deposit	10,000,000 anova (0.01 NOVA)
Governance URL	explorer.novachain.network/governance

16. Legal Disclaimer

This whitepaper is for informational purposes only and does not constitute financial, investment, legal, or tax advice. The NOVA token is a utility token used for governance and staking on Nova Chain. Nothing in this document should be construed as a solicitation to buy or sell any securities or investment products.

Blockchain technology and cryptocurrency involve significant risks including but not limited to technical vulnerabilities, regulatory uncertainty, market volatility, and loss of funds. Participants should conduct their own research and consult qualified professionals before making any decisions.

The Nova Chain team makes no warranties, expressed or implied, about the accuracy, completeness, or fitness for a particular purpose of the information contained herein. This document may be updated without notice as the protocol evolves.

Nova Chain

The Zero-Fee Blockchain for Everyone

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