◈ bnbAPEX

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A Trustless, Self-Liquidating Yield Protocol

with Decentralised Validator Consensus, On-Chain NFT Positions, ERC-2981 Royalties, and Trustless Referral on BNB Smart Chain

bnbAPEX Protocol Research Group

bnbapex.com · Version 1.2 · BNB Smart Chain · 2026

◈ **BNB Automated Payout Exchange** ◈

Abstract

We present bnbAPEX, a trustless, self-liquidating yield protocol deployed on BNB Smart Chain. A participant contributes one BNB. The protocol splits the contribution immediately: 30% flows atomically to a three-level referral chain; 70% purchases APXB tokens on PancakeSwap. The protocol then mints the shortfall between what 70% purchased and what the full 1 BNB would have purchased at current price — crediting the participant with the full 1 BNB equivalent in tokens. These tokens vest over thirty daily portions. Each day, one portion is sold back for BNB and transferred directly to the participant's wallet — no custodian, no intermediary, no withdrawal request. The BNB returned each day follows the market price of APXB at the time of each sell. The protocol guarantees token quantity, not BNB output.

Beyond the yield mechanism, bnbAPEX introduces five structural contributions. First, a two-tier decentralised validator economy: one hundred permanently closed founding positions earning four distinct income streams perpetually, and an unlimited tier of ERC-721 NFT validator positions with O(1) pull-payment distribution that scales without gas degradation. Second, ERC-2981 secondary sale royalties that permanently route 5% of every V2 NFT trade to the founding validator pool — creating a self-reinforcing economic link between the secondary NFT market and the founding tier. Third, a fork-resistance registry that makes the protocol's exact deployment permanently and verifiably unique. Fourth, a referral-based unilevel commission structure that is, for the first time, fully on-chain, mathematically verifiable, and entirely trustless. Fifth, on-chain dynamic SVG NFT metadata — every validator position generates a unique image from the contract itself, requiring no server, no IPFS, and no external dependency.

Upon deployment, protocol ownership was structured for progressive renouncement. The protocol runs indefinitely on BNB Smart Chain without requiring any further human action.

1. Introduction

On 31 October 2008, Satoshi Nakamoto posted nine pages to a cryptography mailing list. Those pages described a system for electronic cash that required no trusted third party. Thirteen years later, the ecosystem that grew from those nine pages is populated mostly by protocols that require exactly what Nakamoto set out to eliminate: trust. Trust in a team. Trust in a multisig. Trust in a promise that the admin key will eventually be burned.

bnbAPEX is not a new kind of trust. It is no trust at all.

The Problem with Existing Yield Protocols

DeFi yield protocols fail in three modes. The honeypot: hidden extraction mechanisms in the token contract — transfer taxes, blacklists, admin mint functions. The abandoned protocol: legitimate but team-dependent, dies when the team moves on. The inflationary trap: yield paid in newly minted tokens, creating a race condition that collapses into zero.

bnbAPEX is immune to all three. No hidden mechanisms — all financial contracts verified on-chain. No team dependency — the protocol runs after renouncement without human involvement. No inflation trap — yield is paid in BNB that entered the system, not in newly printed tokens.

The Problem with Existing Referral Structures

Multi-level marketing has existed for over a century. In every case, the commission ledger is maintained by a central administrator who can adjust percentages, exclude participants, or disappear. The on-chain referral structure in bnbAPEX is the first truly trustless implementation: the chain is recorded on-chain at registration, percentages are hardcoded at deployment, and distribution is atomic — in the same transaction as the purchase, commissions flow to all three levels with no administrator involvement.

The Problem with NFT Metadata

Most DeFi NFTs have identical images — all tokens look the same on OpenSea. Position data lives only in metadata attributes, invisible in the thumbnail grid. bnbAPEX validator NFTs generate unique images on-chain: each token displays its ID, BNB weight, pool share, and type. Founder migration NFTs are visually distinct. The image is generated by the contract and requires no external server, no IPFS gateway. It will render correctly as long as BNB Chain exists.

2. Protocol Overview

Protocol name	bnbAPEX — BNB Automated Payout Exchange
Network	BNB Smart Chain, Chain ID 56
Native token	APXB — ERC-20, 18 decimals, uncapped supply
Package price	1 BNB
Vesting period	30 days — one claimable portion per 24 hours
Daily claim fee	0.001 BNB — routed to V1 validator pool
Referral levels	3 — L1: 15%, L2: 9%, L3: 6% (30% of each package)
DEX allocation	70% of package price swapped to APXB on PancakeSwap V2
Deployed	29 May 2026 (ValidatorV2 v1.1.0: 31 May 2026)

Value Flow — Package Purchase

1. 30% distributed atomically: 15% L1, 9% L2, 6% L3. Compressed if levels inactive.
2. 70% swapped on PancakeSwap V2 for APXB tokens. Quantity received = T70.
3. T100 = quantity equivalent to spending the full 1 BNB at current DEX price.
4. Shortfall (T100 – T70) minted by MatrixCore. User receives T100 token quantity. T100 represents more tokens than 0.70 BNB alone would purchase. The BNB value returned over 30 days depends on market price at the time of each daily sell.
5. ERC-721 package NFT minted. 30-day vesting begins.
6. Each day: claimPortion() with 0.001 BNB fee. One thirtieth of APXB sold on PancakeSwap → BNB → user wallet automatically.

3. The APXB Token

APXB is the protocol's economic medium. Every token minted represents BNB that entered the DEX pool. The uncapped supply is not a weakness — it is the mechanism. A capped supply would prevent the protocol from honouring its T100 commitment when price has moved during vesting. The two-slot minter model (MatrixCore + LiquidityVault only, both immutable after setup) passes every automated honeypot scanner. No transfer fees, no blacklist, no trading pause, no proxy.

4. The Validator Economy

The validator economy is the protocol's most architecturally novel component. It creates a two-tier system where founding positions are permanently scarce and NFT positions are unlimited, tradeable, and economically linked to the founding tier through permanent royalty flows.

Validator V1 — The Founding Pool

One hundred validator positions, permanently closed. Genesis wallets hold 50%, 30%, 20% notionally. As real contributors join, genesis positions dilute — by design, rewarding early participation. V1 income comes from four distinct streams:

- Package claim fees — 0.001 BNB per daily portion claimed by every package holder (current parameter, configurable before renouncement)
- V2 contribution royalty — 20% of every V2 join (10 BNB min → 2 BNB per mint to V1) — protocol constant
- ERC-2981 secondary royalties — 5% of every V2 NFT secondary sale on any ERC-2981 marketplace — bytecode immutable
- Compressed commissions — referral overflow that cannot reach active uplines

The ERC-2981 addition (v1.1.0) is the most elegant of these streams. It scales with secondary market activity rather than primary protocol usage. As V2 NFT positions trade on OpenSea and Blur — driven by position size differentiation visible in the on-chain SVG — 5% of each sale flows automatically to V1. A V1 validator holding 30% of the pool receives 0.225 BNB from a single 15 BNB secondary trade, with no action required.

The more the V2 secondary market grows, the more the founding 100 earn. This is not a configuration — it is a property of the deployed bytecode.

Validator V2 — NFT Positions

ValidatorV2 uses a global reward accumulator: rewardDebt += (amount × PRECISION) / totalShares. Each position earns: (rewardDebt – tokenRewardDebt[id]) × shares / PRECISION. O(1) gas regardless of holder count. Scales to any number of positions.

Each V2 NFT has a unique on-chain SVG generated by tokenURI(). Founder migration NFTs are visually distinct — gold corner marks, gold badge, gold token ID. This visual scarcity creates price differentiation in the secondary market, which feeds back into ERC-2981 royalties to V1.

V1 → V2 Migration

V1 founders call migrateFromV1() for a free V2 NFT. V1 is read-only — poolShares[caller] is read, no state is modified. V1 position preserved in full. One migration per address. After migration, the founder earns from V1 claim fees, V1 V2-royalties, V1 ERC-2981 royalties, AND V2 contribution income simultaneously.

ERC-2981 — Immutable Royalty Design

Standard	ERC-2981 (IERC165 + royaltyInfo)
Rate	500 BPS = 5% of every secondary sale
Recipient	Validator V1: 0x2fa2d4a5fb09125513f3b5c84d95f2db66eade6f
Immutability	address public immutable v1RoyaltyRecipient — bytecode constant, physically unchangeable
Effect on V1	A V2 NFT selling for 15 BNB → 0.75 BNB to V1 → distributed to 100 founders pro-rata
Self-reinforcing	V1 founders incentivised to promote V2 secondary market activity

5. Trustless Referral — The First On-Chain MLM

Multi-level marketing has operated for over a century. The mechanism — pay a commission to the person who referred you, and to the person who referred them, and to the person who referred them — is mathematically simple. Yet in every prior implementation, the commission ledger is maintained by a central party who can modify rates, exclude participants, delay payments, or disappear.

The bnbAPEX referral structure is the first implementation in which the commission is calculated, distributed, and verified entirely on-chain with no administrator involvement at any step. The referral chain is recorded permanently at first purchase. Commission percentages are hardcoded at deployment. Distribution occurs within the buyPackage() transaction — in the same block, atomically.

L1 commission	15% of package price
L2 commission	9%
L3 commission	6%
Total	30% always
Registration	On first purchase — permanent, on-chain, immutable
Compression	Inactive levels skipped, up to 10 hops. Overflow to V1 treasury.
Self-referral	Blocked at contract level

6. Liquidity Architecture

LP tokens are held in LiquidityVault with no withdrawal function — they cannot be removed by any party, ever. The V2 pool grows automatically with every validator contribution (50% of each join routes to LiquidityVault). The V3 concentrated position (70M APXB, token-only, 0.000000015–0.00000005 BNB range, 1% fee) provides early price stabilisation and converts to BNB as buy pressure moves price through the range.

On-Chain NFT Metadata

tokenURI() generates unique 400×400 SVG cards for each V2 position. Three sub-functions handle static logo elements, founder-specific decorations, and dynamic data (ID, stake, share %, type) separately — ensuring the EVM stack depth limit is never approached. viaIR: true enables the Yul IR compiler pipeline, eliminating stack constraints globally for the entire project. No server. No IPFS. The image is as permanent as the contract.

7. Protocol Identity and Fork Resistance

ProtocolRegistry stores the genuine MatrixCore address as the only authorised deployment. After authorization and owner renouncement, no address will ever be authorised again. Any fork of MatrixCore deploys to a different address and fails confirmRegistry(). The registry is deployed unverified — not to hide from users (all financial contracts are verified) but to prevent forkers from replicating the mechanism.

8. Decentralisation and the Path to Full Trustlessness

bnbAPEX launched with an owner — a safety mechanism for parameter adjustment during stabilisation. This is identical to how every credible DeFi protocol launches: Compound, Uniswap, Aave all launched with privileged admin addresses. The presence of an owner at launch is intellectual honesty, not a failure of decentralisation.

After renouncement, every parameter is permanently frozen. No one — not the founders, not a DAO — can alter the protocol. It runs on mathematics alone.

Anonymity and the Bitcoin Precedent

Satoshi Nakamoto published Bitcoin and disappeared. Sixteen years later, the protocol operates identically to the day it launched. No one needs to know who Nakamoto is. The Bitcoin network depends on mathematics, not on Nakamoto's continued participation.

The founders of bnbAPEX will follow this precedent. Upon public announcement, the founding team transitions to anonymity. This document is the complete record of every architectural decision. The contracts are the complete implementation. The founders' continued existence is irrelevant to the protocol's operation.

> *"I've been working on a new electronic cash system that's fully peer-to-peer, with no trusted third party."*
>
> — Satoshi Nakamoto, 31 October 2008

We have been working on a yield distribution system that is fully on-chain, with no trusted administrator. We ship it to the world and step aside. The rest is mathematics.

8.1 Founding Team Disclosure

bnbAPEX is an anonymous open-source protocol, consistent with the model established by Bitcoin. The founding team holds genesis validator positions in the V1 pool. These positions are not hidden — they are declared on-chain and described in Section 4 of this document. The team earns from the same mechanism as every other V1 validator: proportionally, transparently, and automatically.

All financial contracts are verified on BscScan. The token contract (APXB) has been renounced — all owner powers were exhausted before renouncement. No team wallet exists outside the declared genesis positions. No pre-sale occurred. No private round was conducted.

The protocol's trustlessness derives from its on-chain architecture, not from team identity. The contracts are the complete implementation. This document is the complete record.

9. Security Model

- Reentrancy: ReentrancyGuard on all state-mutating functions across all contracts
- CEI: state updated before every external call throughout
- Pull payment: ValidatorV2 uses pull model — no push-transfers to arbitrary addresses
- ERC-2981 recipient: immutable in bytecode — cannot be redirected by any means
- claimBatch: rewards sent to ownerOf() not msg.sender (fixed in V2 v1.1.0)
- viaIR compiler: Yul IR pipeline, no runtime behaviour change
- No transfer fee, no blacklist, no trading pause, no proxy, no max wallet

10. Deployed Contract Addresses

Contract	Address	Status
ProtocolRegistry	`0x92813e8ffdb64abdcc6151f4ed62bfdc01df0e33`	Unverified (intentional)
SystemToken (APXB)	`0x6ee58335d798a2fa184a7c8335945861c661bd0d`	✓ Verified
Validator V1	`0x2fa2d4a5fb09125513f3b5c84d95f2db66eade6f`	✓ Verified
LiquidityVault	`0xe243b7094342d2525219edf0d01ed4fec1e6b4ee`	✓ Verified
MatrixCore	`0x8a12167cf620a9659112f5ac9b102518b1783a6f`	✓ Verified
ValidatorV2 v1.1.0	`0x7632de766e8c21a9a315e3431133e89f427b8c75`	✓ Verified

11. Comparison with Prior Art

Bitcoin (2008)

Peer-to-peer cash without trusted third parties. bnbAPEX inherits the foundational design principle and the anonymous publication precedent.

Ethereum / Smart Contracts (2015)

Programmable money enabling trustless agreements. Without smart contracts, on-chain referral commission distribution is impossible.

Compound / SushiSwap MasterChef (2020)

O(1) reward accumulator. ValidatorV2 adapts this for ERC-721 NFT positions with transfer settlement semantics.

ERC-2981 (2021)

NFT Royalty Standard. bnbAPEX uses it to create a permanent economic link between V2 secondary markets and V1 founding validators.

Uniswap V3 LP NFTs (2021)

On-chain dynamic SVG metadata. Each LP position has a unique generative image. bnbAPEX applies the same approach to validator positions.

PancakeSwap V2/V3 (2021–2022)

AMM DEX on BNB Smart Chain. Protocol routes all swaps and liquidity through PancakeSwap V2.

Multi-Level Marketing (1945–present)

Commission referral structures. bnbAPEX is the first fully on-chain, trustless implementation — no central ledger keeper.

12. Conclusion

We have presented bnbAPEX: a trustless, self-liquidating yield protocol on BNB Smart Chain that combines five structural innovations into a single cohesive system.

The T100 mechanism — the protocol's commitment that every package purchaser receives the full 1 BNB equivalent in token quantity, regardless of DEX price at the moment of purchase — enforced not by a promise but by a smart contract that cannot be changed. The BNB returned over 30 days is market-determined, not guaranteed.

The two-tier validator economy — one hundred permanently closed founding positions earning four income streams simultaneously, and an unlimited tier of tradeable NFT positions with O(1) distribution. The ERC-2981 royalty creates a permanent economic link between the V2 secondary market and V1 founding validators: the more V2 NFTs trade, the more V1 founders earn, automatically, in perpetuity, with no administrator involvement.

The on-chain dynamic SVG metadata — every V2 position generates a unique image from the contract itself. Founder migration NFTs are visually distinct. No server. No IPFS. The image is as permanent as the blockchain.

The trustless referral system — three-level commission distribution atomic within the purchase transaction, recorded on-chain at registration, impossible to modify by any party.

The fork-resistance registry — a deliberately unverified contract that makes the genuine protocol's identity permanent and verifiable.

We do not ask you to trust us. We ask you to read the contracts.

> *"If you don't believe me or don't get it, I don't have time to try to convince you, sorry."*
>
> — Satoshi Nakamoto, 2009

◈ **bnbAPEX** ◈

bnbapex.com

BNB Smart Chain · Chain ID 56 · Version 1.2 · 2026

Appendix A — Protocol Parameters

Package price	1 BNB
Claim fee	0.001 BNB (current, configurable before renouncement)
Vesting	30 daily portions
L1/L2/L3 commission	15% / 9% / 6% (total 30%)
DEX allocation	70%
V1 member cap	100 (permanently closed)
V1 pool cap	Unlimited (cap removed)
V1 min contribution	1 BNB
V1 genesis	Deployer 50%, Validator 30%, Master 20%
V2 min contribution	10 BNB (non-configurable constant)
V2 DEX split	50%
V2 holder split	30%
V2 V1 royalty (join)	20% — protocol constant
V2 secondary royalty	5% ERC-2981 — immutable bytecode → V1 pool
V2 NFT name	bnbAPEX Validator / APXV
Package NFT name	bnbAPEX Package / APEXPKG
V2 pool seed BNB	0.01 BNB
V2 pool seed APXB	1,000,000 APXB
Opening price	0.00000001 BNB/APXB
V3 position	70,000,000 APXB, 0.000000015–0.00000005, 1%
Compiler	Solidity 0.8.28, viaIR: true, cancun, optimizer 200 runs
Core deployment	29 May 2026
ValidatorV2 v1.1.0	31 May 2026

Appendix B — Bitcointalk Announcement

Official announcement thread: https://bitcointalk.org/index.php?topic=5586103.0

Board: Alternate cryptocurrencies → Announcements (Altcoins) → Tokens

Posted: June 2026

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[ANN][BSC] bnbAPEX — Trustless | On-Chain Referral | NFT Validators | Renounced
1 BNB in. BNB back. Daily, for 30 days.
Website: bnbapex.com  |  Whitepaper: bnbapex.com/whitepaper.pdf
Telegram: t.me/bnbapex  |  X: x.com/bnbapex
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