

VirBiCoin Whitepaper

A Metaverse-Ready Ethereum-Compatible Blockchain

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VirBiCoin Whitepaper

A Metaverse-Ready Ethereum-Compatible Blockchain

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Abstract

VirBiCoin (VBC) is a Proof-of-Work blockchain designed to power metaverse applications and decentralized economies. Built on proven Ethereum technology with the Ethash algorithm, VBC provides a secure, decentralized platform for virtual world transactions, NFTs, and DeFi applications.

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1. Introduction

The emergence of metaverse platforms has created unprecedented demand for blockchain infrastructure that can handle virtual economies at scale. VirBiCoin addresses this need by providing:

- **EVM Compatibility:** Full support for Solidity smart contracts
 - **GPU Mining:** Democratic participation through Ethash PoW
 - **Enterprise Infrastructure:** High availability and 24/7 monitoring
 - **Metaverse Focus:** Optimized for virtual world use cases
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2. Protocol Architecture

2.1 Technical Specifications

Parameter	Value
Coin Name	VirBiCoin
Symbol	VBC
Chain ID	329
Consensus	Proof of Work (PoW)
Algorithm	Ethash
Block Time	12-14 seconds
Block Reward	8 VBC
Gas Limit	30,000,000
EVM Version	Paris
Decimals	18

2.2 Network Configuration

Parameter	Value
RPC URL	https://rpc.digitalregion.jp
WebSocket	wss://ws.digitalregion.jp
RPC Port	8329/tcp
WS Port	8330/tcp
P2P Port	28329/tcp, 28329/udp

2.3 Protocol Stack

The VirBiCoin protocol consists of the following layers:

1. **User Layer:** dApps, Smart Contracts, Wallets (MetaMask), Miners (Ethash GPU)
2. **JSON-RPC API:** HTTP/WebSocket (Port 8329/8330)
3. **Execution Layer:** Go VirBiCoin (gvbc) - EVM compatible, Solidity/Vyper
4. **Consensus Layer:** Proof-of-Work (Ethash), Block Time: 12-14 sec, Reward: 8 VBC
5. **P2P Network:** DevP2P Protocol (Port 28329)
6. **State & Storage:** LevelDB / Chain ID: 329
7. **Infrastructure:** Enterprise Cloud - Managed by Digitalregion, Inc.

2.4 Official Services

Service	URL
Block Explorer	https://explorer.digitalregion.jp
Network Stats	https://stats.digitalregion.jp
Mining Pool	https://pool.digitalregion.jp
DEX	https://explorer.digitalregion.jp/dex
Faucet	https://pool.digitalregion.jp/faucet
Public RPC	https://rpc.digitalregion.jp

2.5 Smart Contract Architecture

Contract Hierarchy:

Layer	Component	Description
1	User Interface	Web3 Wallets / dApps
2	SimpleRouterV2	Swap & Liquidity Entry Point
2a	SimpleFactoryV2	Pair Manager
2b	SimplePairV2	Liquidity Pool / LP Token (Token A + Token B)
2c	WVBC	VBC Wrapper
3	MasterChefV2	Yield Farming / Staking (Distributes VBCG Rewards)

2.6 Security Model

Contract Security

- **ReentrancyGuard:** Prevents reentrancy attacks.
- **Ownable:** Clearly defined administrative privileges.
- **Pausable:** Emergency pause functionality.
- **Solidity 0.8.x:** Automatic overflow checks.

Economic Security

- **Minimum Liquidity Lock:** Mitigates flash loan attacks.
- **Fee Checks:** Strict validation of K-value (constant product).
- **Slippage Protection:** Specification of minimum output amounts.

Operational Security

- Multi-sig wallets (Planned)
- Timelock upgrades (Planned)
- Community audits

2.7 Contract Addresses

Contract	Address
SimpleFactoryV2	0x663B1b42B79077AaC918515D3f57FED6820Dad63
SimpleRouterV2	0xdD1Ae4345252FFEA67fE844296fbd6C973B98c18
WVBC	0x52CB9F0d65D9d4De08CF103153C7A1A97567Bb9b
MasterChefV2	0x12A656c2DeE0EA2685398d52AcF78974fCD67B27
TokenFactoryV2	0xE2008c44Bc077eFc1c6B5A3274ACC805c7F03b73
VBCG	0xac7F60af25C5c4E23d1008C46511e265A8c9B6cF
USDT	0xdf136683B118E95c04A61FEC091c65736d9de059

3. Tokenomics

3.1 Initial Distribution

Total Initial Supply: 180,428 VBC

Allocation	Amount	Percentage
Mining Rewards	75,000 VBC	41.6%
Development Fund	60,000 VBC	33.2%
Foundation Treasury	45,428 VBC	25.2%

3.2 Emission Schedule

- **Block Reward:** 8 VBC per block
- **Block Time:** ~12-14 seconds
- **Daily Emission:** ~49,371 - 57,600 VBC
- **Halving:** No automatic halving (governance-controlled)

3.3 Token Distribution Chart

- Mining Rewards: 41.6%
- Development Fund: 33.2%
- Foundation Treasury: 25.2%

3.4 VBCG: VirBiCoin Gold

VBCG is the governance and reward token of the VirBiCoin ecosystem.

Utility

1. **Governance Voting Rights:** Voting on VIPs (VirBiCoin Improvement Proposals).
2. **Farming Rewards:** Rewards for LP providers.
3. **Protocol Fees:** Future fee payments.

Supply

- **Initial Supply:** [X] VBCG
- **Max Supply:** Unlimited (Inflationary)
- **Issuance:** Farming rewards from MasterChef

Value Backing

- Liquidity on DEX (VBCG-VBC pair)
- Governance participation rights
- Linked to ecosystem growth

3.5 WVBC: Wrapped VirBiCoin

WVBC is a wrapped version of native VBC compatible with ERC20.

Purpose

- Enables VBC trading on DEX.
- Ensures compatibility with smart contracts.
- Integration into DeFi protocols.

Features

- **deposit():** VBC \rightarrow WVBC (1:1)
 - **withdraw():** WVBC \rightarrow VBC (1:1)
 - **Fully Backed:** Deposited VBC is always held within the contract.
-

3.6 Stablecoin Integration: Fully-Backed USDT

VirBiCoin provides a **100% fully-backed** USDT stablecoin (vUSDT). Every vUSDT on VirBiCoin is backed 1:1 by real USDT held on Ethereum mainnet.

3.7 Collateral Model: 1:1 Backed Stablecoin

VirBiCoin USDT (vUSDT) is **fully collateralized** by real USDT on Ethereum mainnet, ensuring complete transparency and trust.

Collateral Structure

Component	Network	Description
Bank Wallet	Ethereum Mainnet	Multi-sig wallet holding real USDT collateral
vUSDT Contract	VirBiCoin (Chain ID: 329)	ERC20 token issued 1:1 against collateral

Collateral Ratio $\text{Collateral Ratio} = \text{Bank Wallet USDT Balance} / \text{vUSDT Total Supply} = 100\%$

Item	Value
Bank Wallet (Ethereum)	0x717ac1A51760Cc7Dc91b7be67c977C0635BDF117
vUSDT Contract (VirBiCoin)	0xdf136683B118E95c04A61FEC091c65736d9de059
Collateral Asset	Tether USD (USDT) on Ethereum
Collateral Ratio	100% (1:1 Fully Backed)
Storage Method	Multi-sig Bank Wallet
Audit	On-chain verifiable 24/7

3.8 vUSDT Technical Specifications

Property	Value
Contract Address	0xdf136683B118E95c04A61FEC091c65736d9de059
Token Name	Tether USD
Symbol	USDT
Decimals	6 (Same as Ethereum USDT)
Total Supply	Always matches collateral amount
Standard	ERC20 Compatible

3.9 Issuance and Redemption Process

Issuance (Mint)

Step	Action
1	User sends real USDT to Bank Wallet on Ethereum
2	Deposit confirmation verified on-chain
3	Equal amount of vUSDT minted on VirBiCoin
4	Total supply always matches collateral

Redemption (Burn)

Step	Action
1	User burns vUSDT on VirBiCoin
2	Burn confirmed on-chain
3	Real USDT sent from Bank Wallet to user
4	Total supply always matches collateral

3.10 Security Model

Access Control

Function	Permission
Mint	Digitalregion, Inc. only (Owner)
Burn	Any holder can burn their own vUSDT
Transfer	Standard ERC20 (Anyone)

Security Guarantees

Guarantee	Description
Full Collateral	All issued vUSDT is backed by real USDT
No Fractional Reserve	vUSDT supply never exceeds collateral
On-chain Audit	Bank Wallet balance publicly verifiable
Transparent	All transactions visible on both chains

3.11 Collateral Proof

Bank Wallet (Ethereum Mainnet)

Item	Details
Address	0x717ac1A51760Cc7Dc91b7be67c977C0635BDF117
Network	Ethereum Mainnet (Chain ID: 1)
Verification	Etherscan
Availability	24/7 on-chain verification

vUSDT Contract (VirBiCoin)

Item	Details
Address	0xdf136683B118E95c04A61FEC091c65736d9de059
Network	VirBiCoin (Chain ID: 329)
Verification	VBC Explorer

Item	Details
Total Supply	Verifiable on-chain

Current Collateral Status

Metric	Value
Bank Wallet USDT Balance	100 USDT
vUSDT Total Supply	100 USDT
Collateral Ratio	100%
Status	Fully Collateralized

3.12 Emergency Response

Contingency Procedures

Scenario	Response
Smart Contract Vulnerability	Pause contract, notify users, deploy fix
Collateral Discrepancy	Halt minting, audit, restore ratio
Bridge Failure	Manual verification and settlement

Contact For collateral inquiries: Contact Digitalregion, Inc. through official channels.

3.13 Future Roadmap

Phase	Milestone
Current	100% collateralized vUSDT
Phase 2	Additional USDT collateral deposits
Phase 3	USDC stablecoin support
Phase 4	Multi-signature governance
Phase 5	Regular third-party audits
Phase 6	Decentralized bridge integration

3.14 Token Flow

Flow Diagram:

1. User deposits VBC
2. -> WVBC (Wrapping)

3. -> DEX Pair (Trading/Liquidity)
4. -> LP Tokens (Liquidity Provider)
5. -> MasterChef (Staking)
6. -> VBCG Rewards (Earned by User)

4. DeFi Ecosystem

4.1 Ecosystem Overview

VirBiCoin Ecosystem Structure:

Category	Component	Function
Governance	VirBiCoin DAO	Protocol governance and voting
Trading	DEX	Token swaps and liquidity
Yield	MasterChef	Farming and staking rewards
Launch	Launchpad	Token IDO platform

Token Ecosystem:

Token	Type	Purpose
VBC	Native	Gas and transactions
WVBC	Wrapped	ERC20 compatible VBC
VBCG	Governance	Voting and farming rewards
USDT	Stablecoin	Stable medium of exchange

4.2 VirBiCoin DEX: Decentralized Exchange

VirBiCoin provides its own AMM (Automated Market Maker) based decentralized exchange.

Core Features

- **SimplePairV2:** Uniswap V2 compatible ERC20 compliant LP tokens.
- **SimpleFactoryV2:** Anyone can create token pairs.
- **SimpleRouterV2:** Unified interface for swaps and liquidity management.

Technical Specifications

- **Swap Fee:** 0.3%
- **Minimum Liquidity:** 1000 wei (Permanently locked)
- **Constant Product Formula:** $x * y = k$

Supported Functions

- Token to Token Swaps
- VBC to Token Swaps (Native support)
- Add/Remove Liquidity
- Multi-hop Routing

4.3 Yield Farming: MasterChef V2

Liquidity providers can earn VBCG tokens as additional rewards.

Reward Mechanism

- **Reward Token:** VBCG (VBC-Gold)
- **Block Reward:** Configurable (Initial: 0.01 VBCG/block)
- **Allocation:** Proportional based on allocPoint per pool.

Pool Management

- Admins can add/modify pools.
- Set name and allocation points for each pool.
- Users stake LP tokens to earn rewards.

Security

- **Transfer-based Rewards:** Distributed from pool balance (not minted).
- **Emergency Withdraw:** Withdraw immediately forfeiting rewards.

4.4 Launchpad: TokenFactoryV2

A platform where anyone can easily create ERC20 tokens.

Features

- Custom Token Name, Symbol, Decimals, Total Supply.
- **Creation Fee: 10 VBC**
- All tokens minted to the creator.

Token Specifications

- OpenZeppelin ERC20 Compliant.
 - Standard transfer/approve/transferFrom.
 - Instant listing on DEX possible.
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5. Governance

5.1 Governance Model

VirBiCoin employs a hybrid governance model combining:

1. **On-chain Governance:** Token-weighted voting for protocol changes
2. **Foundation Oversight:** Strategic direction and fund allocation
3. **Community Proposals:** Open submission process for improvements

5.2 Proposal Process

1. **Draft:** Community discussion on forums
2. **Formal Proposal:** On-chain submission with stake
3. **Voting Period:** 14-day voting window
4. **Implementation:** Development and deployment

5.3 Governance Parameters

Parameter	Value
Proposal Threshold	1,000 VBC
Quorum	10% of circulating supply
Voting Period	14 days
Timelock	48 hours

5.4 Governance Flow

Proposal Lifecycle:

1. **Proposal Creation** - VBCG Holder submits VIP
 2. **Voting Period** (e.g., 7 days) - VBCG Holders vote (1 Token = 1 Vote)
 3. **Quorum Check** - Minimum participation required
 4. **Timelock** (e.g., 2 days) - Delay before execution
 5. **Execution** - On-chain parameter change
-

6. Roadmap

Phase I: Genesis (Year 1-2)

- PoW Mainnet Launch
- Block Explorer & Network Stats
- DEX V2 (Factory, Router, Pair)
- Yield Farming (MasterChef V2)
- Token Launchpad (TokenFactoryV2)
- VBCG Governance Token
- USDT Stablecoin Integration
- CEX Listing (Exbitron: VBC/USDT, VBC/BTC)

Phase II: Cultivation (Year 3-4)

- VirBiCoin DAO Implementation
- On-chain Governance Activation
- Cross-chain Bridge (Ethereum)
- Advanced Launchpad (IDO)
- Additional Exchange Listings
- NFT Marketplace (OsatoNFT / SUGAR)
- Faucet Service
- Grant Program

Phase III: Evolution (Year 5-6)

- Hybrid PoW/PoS Consensus Research
- Layer 2 Scaling Solution (Optimistic Rollup)
- Institutional & Enterprise Partnerships
- Mobile Wallet Application
- Hardware Wallet Integration (Ledger/Trezor)
- Multi-language Documentation

Phase IV: Horizon (Year 7+)

- Full DAO Authority Transfer
 - ZK-Rollup Implementation for Privacy
 - Multi-chain Bridge (Polygon, BSC, Arbitrum)
 - Metaverse Platform Integration
 - Developer SDK & API Platform
 - VirBiCoin Foundation Establishment
-

7. Use Cases

1. Metaverse Economy

- VBC/VBCG as in-game currency
- Trading of NFT assets
- Creator reward systems

2. DeFi Applications

- Passive income through liquidity provision
- Token swaps
- Yield farming

3. Token Launch

- Issuance of project-specific tokens
- Fundraising via IDO
- Community building

4. Governance Participation

- Protocol improvement proposals
 - Voting on parameter changes
 - Ecosystem fund allocation
-

8. Conclusion

VirBiCoin represents a purpose-built blockchain for the metaverse era. By combining proven Ethereum technology with optimizations for virtual world use cases, VBC provides the founda-

tion for the next generation of decentralized applications.

Our commitment to security through Proof-of-Work, combined with enterprise-grade infrastructure and community-driven governance, positions VirBiCoin as a leading platform for metaverse economies.

Official Links

- **Website:** <https://vbc.digitalregion.jp>
- **Block Explorer:** <https://explorer.digitalregion.jp>
- **Mining Pool:** <https://pool.digitalregion.jp>
- **DEX:** <https://explorer.digitalregion.jp/dex>
- **Faucet:** <https://pool.digitalregion.jp/faucet>
- **GitHub:** <https://github.com/virbicoing/go-virbicoing>
- **Discord:** <https://discord.digitalregion.jp>
- **X (Twitter):** <https://x.com/VirBiCoin>
- **Ask Mona 3.0:** <https://web3.askmona.org/23174>
- **Bitcointalk:** <https://bitcointalk.org/index.php?topic=5546988.0>

External Resources

- **DefiLlama:** <https://defillama.com/chain/VirBiCoin>
- **MiningPoolStats:** <https://miningpoolstats.stream/virbicoing>
- **ChainID.network:** <https://chainid.network/chain/329/>
- **Chainlist:** <https://chainlist.org/chain/329>

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