VirBiCoin Whitepaper

The EVM-Compatible Blockchain for the Metaverse Generation.

1. Abstract

This paper details VirBiCoin (VBC), a Layer 1 blockchain protocol designed to be the foundation for next-generation decentralized applications (dApps) and the rapidly growing Metaverse economy. Today's digital society is at the dawn of the Metaverse, where the physical and virtual worlds converge. However, its potential is constrained by the challenges facing existing blockchains. Specifically, Ethereum, the pioneer of smart contracts, faces issues of network congestion, soaring transaction fees, and a complex upgrade path. These factors hinder the seamless experiences and microtransaction economies essential for the Metaverse.

VirBiCoin presents a practical and forward-thinking solution to these challenges. Our vision is **"to evolve with the Metaverse and explore new possibilities."** To realize this vision, we have strategically combined Ethereum's extensive developer ecosystem with a proven technological foundation. VirBiCoin adopts **"Go VirBiCoin (gvbc),"** an execution layer derived from Go Ethereum (Geth), ensuring full EVM compatibility. This allows Ethereum developers worldwide to build applications and experiences for the Metaverse using their familiar tools.

To prioritize network stability and rapid initial deployment, VirBiCoin is currently professionally managed and operated on Enterprise-grade cloud infrastructure by Digitalregion, Inc. This approach provides developers with stable, high-performance infrastructure from day one. For its consensus algorithm, VirBiCoin employs Proof-of-Work (PoW), renowned for being the most decentralized and censorship-resistant, to maximize network security and reliability. This is the first step in our **"progressive decentralization"** roadmap, starting with centralized management and gradually transitioning to a community-driven decentralized network. We plan to migrate to the more energy-efficient Proof-of-Stake (PoS) in the future.

The native token, VBC, serves as the lifeblood of the VirBiCoin ecosystem, especially its Metaverse economy. Its primary utilities are paying for transaction fees (gas) and participating in on-chain governance to decide the protocol's future. VBC adopts an inflationary model with no supply cap, ensuring the network's security is perpetually maintained through mining rewards.

VirBiCoin's ultimate goal extends beyond providing a mere technical platform. We aim to build a stable, secure, and scalable economic foundation for Metaverse creators and participants. By removing barriers to innovation in the digital space, we strive to realize an open virtual world where everyone can enjoy its benefits.

2. Introduction: The State of dApp Platforms and the Dawn of the Metaverse

2.1. The Ethereum Paradigm and Its Limitations

Blockchain technology, particularly the concept of smart contracts, made a quantum leap with the advent of Ethereum, conceived by Vitalik Buterin. It evolved from a mere transaction ledger for cryptocurrencies into a platform for programmable decentralized applications (dApps). Ethereum boasts the world's largest developer community, a rich set of development tools, and robust security proven by numerous projects, making it the undeniable pioneer that laid the groundwork for today's DeFi and NFT ecosystems. Its success demonstrated the transformative potential of blockchain to the world.

However, this success has come at a price. Ethereum faces structural challenges rooted in the **"Blockchain Trilemma"**—the difficulty of simultaneously achieving maximum scalability, security, and decentralization. By prioritizing security and decentralization, Ethereum has encountered severe limitations in scalability.

Scalability Issues and Soaring Transaction Costs: As Ethereum's popularity grew, transaction demand consistently outstripped the protocol's processing capacity. Consequently, the network became congested, and transaction fees (gas fees) skyrocketed. This issue is a particularly serious barrier in the context of the Metaverse, where economic activity relies on countless microtransactions such as item purchases, service usage, and tips to creators. When gas fees reach several or even tens of dollars, such small-scale economic activities become unviable, dampening user participation and hindering the Metaverse's development.

Complexity of the Upgrade Path: The Ethereum community is aware of these challenges and is planning a series of ambitious upgrades. However, this roadmap is a complex, multi-year process during which the protocol will remain in flux. For developers aiming to build long-term Metaverse projects on a stable foundation, this uncertainty represents a significant risk.

2.2. Proposing VirBiCoin: A Practical Foundation for the Metaverse

Against this backdrop, VirBiCoin proposes a clear concept: to provide a practical and stable platform **"to evolve with the Metaverse and explore new possibilities."**

We aim to solve the real-world problems faced by today's developers rather than pursuing experimental technologies. To this end, we have adopted the following strategic approach:

- **EVM-Compatible Execution Layer:** We place the EVM, the world's most widely used and tested smart contract execution environment, at the heart of our protocol. This allows developers to efficiently build complex applications for the Metaverse by leveraging their existing knowledge, code, and tools.

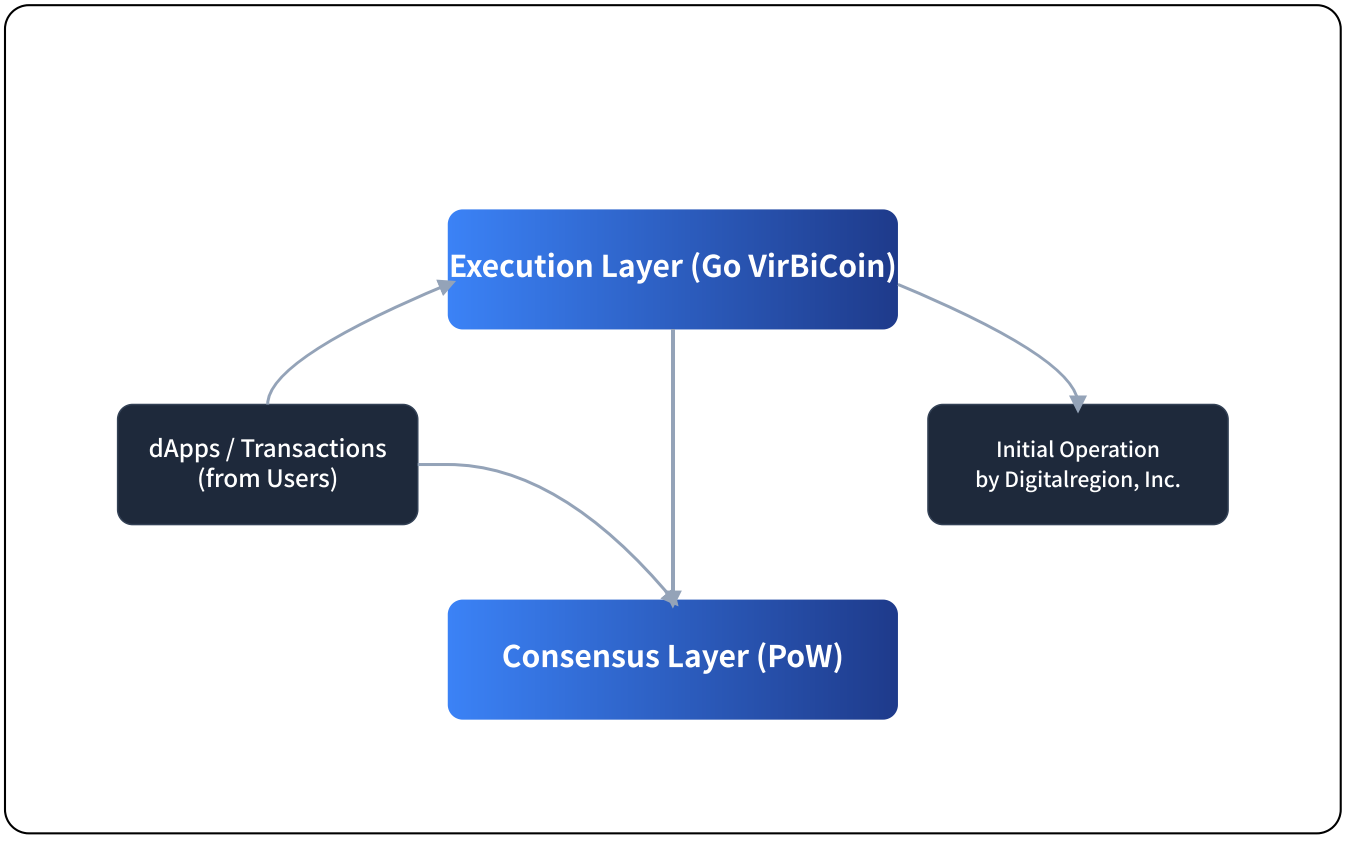
- **Proven PoW Consensus:** We adopt Proof-of-Work (PoW), whose robustness and decentralization have been proven by Bitcoin and early Ethereum, as our initial consensus engine. This ensures maximum security for high-value digital assets within the Metaverse from launch.

- **Stability Through Professional Initial Operation:** To guarantee stability and performance in the project's early stages, the network infrastructure is professionally managed and operated on Enterprise-grade cloud infrastructure by Digitalregion, Inc. This provides developers with a stable environment where they can focus on application development without worrying about infrastructure.

This approach will be the most realistic and attractive option for projects that want to build scalable and economically viable Metaverse applications now, without waiting for Ethereum's complex upgrades to complete. VirBiCoin is the platform that supports the grand vision of the Metaverse with down-to-earth technology and strategy.

3. VirBiCoin Protocol: Architecture and Innovation

The VirBiCoin protocol is founded on the design principles of maximizing stability, security, and developer productivity. Its architecture constructs a robust foundation for Metaverse development by combining Ethereum's mature execution layer with the proven Proof-of-Work (PoW) consensus, further enhanced by professional infrastructure management in its initial phase.



3.1. Foundation Layer: Go VirBiCoin (gvbc)

The core client software of the VirBiCoin network is **"Go VirBiCoin (gvbc)."** It is the official execution layer implementation, derived from Go Ethereum (Geth), Ethereum's official Go

language implementation. By building on Geth, VirBiCoin inherits several critical advantages from day one:

- **Robustness and Proven Track Record:** Geth is an incredibly robust and battle-tested codebase that has supported the world's largest smart contract platform for years. This gives VirBiCoin a solid foundation of network stability and security.
- **Full EVM Compatibility: gvbc** is fully compatible with the Ethereum Virtual Machine (EVM). This means that smart contracts written in Solidity or Vyper and compiled to EVM bytecode can be deployed and executed on VirBiCoin without any modifications.
- **Rich JSON-RPC API:** It fully supports the comprehensive JSON-RPC API provided by Geth. This allows nearly all existing development tools, libraries, and wallets in the Ethereum ecosystem—such as MetaMask, Hardhat, Truffle, Remix, Ethers.js, and Web3.js—to connect to VirBiCoin instantly with a simple configuration change.
- **Standardized Data Structures:** It adopts Ethereum's account model, transaction format, and internal data structures like **CallMsg** and **ChainReader** directly. This allows developers to leverage their Ethereum experience directly, minimizing the learning curve.

3.2. Consensus Mechanism: Proof-of-Work (PoW)

VirBiCoin adopts Proof-of-Work (PoW) as its initial consensus layer. This choice is based on the clear intention to prioritize maximum decentralization and security during the network's launch phase.

- **Proven Security:** The security model of PoW has been proven over many years by Bitcoin and early Ethereum. Attacking a PoW network requires controlling over 51% of the network's total computational power, which is prohibitively expensive, thus guaranteeing an extremely high level of security for protecting digital assets and economic systems in the Metaverse.
- **Permissionless Participation:** In PoW, anyone can participate in the network as a miner and contribute to block generation. This prevents power from concentrating in specific entities and ensures a path towards a truly decentralized network.
- **Future Migration to PoS:** We recognize the energy consumption challenges of PoW and plan to migrate to the more energy-efficient and scalable Proof-of-Stake (PoS) in line with our project roadmap.

3.3. Initial Network Operation: Management by Digitalregion, Inc.

Network stability and high performance are crucial for a project's success, especially in its early stages. To meet this demand, VirBiCoin adopts a unique approach. Currently, the main infrastructure of the VirBiCoin network is professionally managed and operated by Digitalregion, Inc. on Enterprise-grade cloud infrastructure platform.

This strategic decision offers the following advantages:

- **High Availability and Reliability:** Leveraging Enterprise-grade cloud's robust infrastructure minimizes network downtime and provides stable service 24/7.

- **Optimized Performance:** A dedicated team constantly monitors and optimizes network performance to achieve the low latency and high throughput required by Metaverse applications.
- **Developer Focus:** Developers are freed from concerns about infrastructure maintenance and can fully concentrate on their primary goal: creating innovative dApps and Metaverse experiences.

This centralized management model is a strategic choice for the initial phase of the project. Our ultimate goal is complete decentralized operation by the community, and this initial phase is positioned as a crucial step to reach that goal safely and efficiently.

4. VBC Tokenomics: The Economic Engine of VirBiCoin

Tokenomics is one of the most critical factors in determining a blockchain protocol's sustainability, security, and participant incentives. VirBiCoin's native token, VBC, is designed to play an indispensable role in the network's function and growth, particularly in the development of the Metaverse economy.

4.1. Core Utility of the VBC Token

Gas - The Fuel of the Metaverse Economy: VBC is the sole native token used for payments for all operations on the network. This includes all economic activities within the Metaverse, such as token transfers, smart contract execution, and NFT minting and trading. Low-cost gas fees enable vibrant microtransactions and foster a rich Metaverse economy.

Governance - The Right to Decide the Future of the Metaverse: VBC represents voting power in VirBiCoin's on-chain governance system. VBC holders can directly participate in crucial decisions regarding the digital world's rules, such as protocol upgrades and future direction.

Future Staking - Network Security: As indicated in the project roadmap, VirBiCoin plans to migrate to Proof-of-Stake (PoS) in the future. After the migration, VBC will function as a staking asset to maintain network security, and holders will be able to earn staking rewards.

4.2. Supply, Issuance, and Distribution

VBC's tokenomics aim to secure initial security while promoting long-term growth and decentralization.

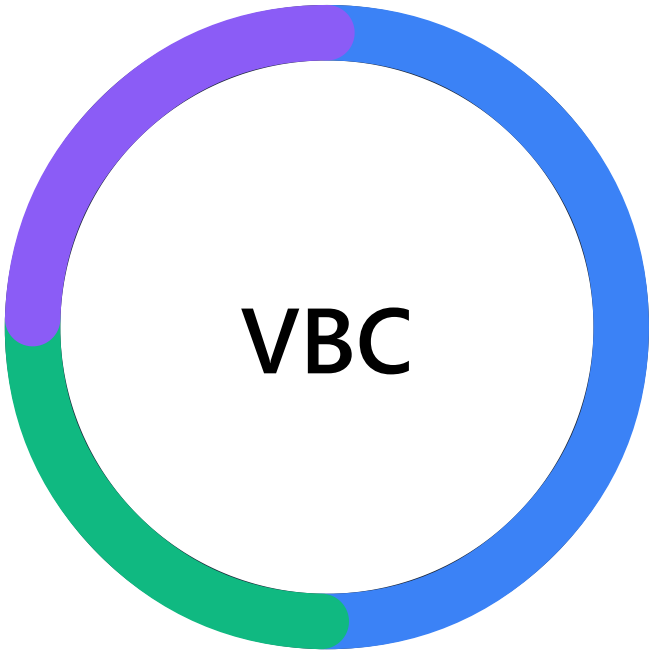
Maximum Supply: VBC has **no issuance cap**. This model, similar to early Ethereum, allows for a perpetual supply of mining rewards (and future staking rewards) to maintain network security. This ensures that incentives for security do not deplete as long as the network exists.

Initial Distribution: VirBiCoin emphasizes a fair launch and does not conduct large-scale pre-sales or allocations to VCs. **1 VBC** was pre-mined in the genesis block, allocated to the foundation to cover initial operational costs. Subsequently, **180,000 VBC** were mined for

testing and network stabilization before the official mainnet launch. This total of **180,001 VBC** constitutes the initial supply used to bootstrap the ecosystem.

Issuance Model: New VBC tokens are programmatically issued as block rewards in the PoW system. Miners receive a fixed amount of VBC for each successfully generated new block. This reward serves as the primary incentive to maintain network security.

VBC Initial Token Allocation (180,001 VBC)



- **50% Ecosystem & Community**
  90,000 VBC
- **25% Foundation Treasury**
  45,001 VBC
- **25% Initial Liquidity**
  45,000 VBC

4.3. Economic Security

The security of a PoW network directly depends on the economic value of the rewards paid to miners.

Role of Block Rewards: In the network's early stages, when transaction fees are still low, inflationary block rewards constitute the majority of the security budget. This incentivizes many miners to join the network, increasing the overall hashrate (computational power). The higher the hashrate, the greater the cost to execute a 51% attack, thus enhancing network security.

Path to Sustainability: Over time, as network usage grows and transaction fees increase, the proportion of miner revenue from fees will grow. In the future, the migration to PoS will

shift the source of security from computational power consumption to VBC token staking, realizing a more energy-efficient and sustainable security model.

5. On-Chain Governance

VirBiCoin's long-term vision is to realize a truly decentralized platform that does not depend on a single organization. While the current network is managed by Digitalregion, Inc. for stability and rapid development, this is merely the first step towards the ultimate goal of **"progressive decentralization."** We aim to eventually delegate full control of the protocol to its stakeholder community of VBC token holders.

5.1. VirBiCoin DAO: Governance by the Community

Once the project matures and the network is sufficiently decentralized, administrative authority will be transferred from Digitalregion, Inc. to the **"VirBiCoin DAO (Decentralized Autonomous Organization),"** which will be operated entirely on-chain. This DAO will operate according to a rule set defined by smart contracts, with VBC token holders as its decision-making body. The DAO will function as the supreme authority for all critical decisions concerning the network, from protocol upgrades to the allocation of ecosystem funds.

5.2. VirBiCoin Improvement Proposals (VIPs)

Changes to the protocol must be made through a transparent and structured process. The framework for this is the **"VirBiCoin Improvement Proposals (VIPs)."**

Proposal Process: Anyone holding a certain amount of VBC tokens can submit a VIP. The proposal is first discussed in a community forum and then put to a formal on-chain vote.

VIP Categories: VIPs are categorized based on their impact on the protocol:

- **Core VIPs:** Changes to the core of the protocol, such as consensus rule changes (e.g., migration to PoS) or EVM upgrades.
- **Parameter VIPs:** Proposals to change protocol settings, such as adjusting block reward amounts or gas limits.
- **Funding VIPs:** Proposals requesting the allocation of funds from the ecosystem fund to specific projects (especially Metaverse-related).

5.3. Voting Mechanism

All voting to approve or reject VIPs will be conducted on-chain in a trustless and verifiable manner.

Voting Power: Voting power is proportional to the amount of VBC tokens each participant holds (**"1 token = 1 vote"**).

Implementation: Once a vote is passed, the proposed change is implemented into the protocol according to a set schedule.

This on-chain governance model is the foundation for VirBiCoin to evolve beyond its dependence on a single entity like Digitalregion, Inc. and continue to self-evolve by

leveraging the collective intelligence of the entire community. It is the very path to a true decentralized public infrastructure and an open Metaverse.

6. Project Roadmap

The VirBiCoin project is driven by a phased development roadmap based on a clear vision and achievable milestones. This roadmap shows our journey, starting from centralized management and evolving into a community-led, decentralized Metaverse infrastructure.

Phase I: Genesis - Building a Stable Foundation (Year 1 Q3 - Q4 and Year 2)

The goal of this phase is to launch a secure, high-performance mainnet and establish an environment where developers can confidently build Metaverse applications.

- **Final Core Client Audit:** Complete and publish reports from thorough security audits of **"Go VirBiCoin"** by multiple independent third parties.
- **Stable Infrastructure on Enterprise-grade cloud:** Establish and operate a high-performance, stable network infrastructure on Enterprise-grade cloud under the management of Digitalregion, Inc.
- **PoW Mainnet Launch:** Launch the mainnet as a permissionless PoW network where anyone can participate as a miner.
- **Release of Basic Tools:** Launch the official **"VirBiCoin Wallet"** and **"VirBiCoin Block Explorer"**.
- **Establishment of the VirBiCoin Foundation:** Legally establish the non-profit VirBiCoin Foundation to support ecosystem growth.
- **Initial CEX/DEX Listing:** Secure listings on selected exchanges to ensure VBC token liquidity.

Phase II: Cultivation - Fostering the Metaverse Ecosystem (Year 3 - Year 4)

This phase aims to actively attract developers and projects to kickstart Metaverse and dApp development on VirBiCoin in earnest.

- **Launch of Grant Program:** The VirBiCoin Foundation will start its grant program, funding the development of Metaverse-related infrastructure and dApps.

- **Global Hackathon:** Host the first global virtual hackathon with a focus on Metaverse and GameFi.
- **Deployment of Trustless Bridge:** Deploy a bridge for secure transfer of major assets with Ethereum to tap into the DeFi ecosystem's liquidity.
- **Onboarding of Strategic dApps:** Launch strategic Metaverse projects and DEXs on the ecosystem with foundation support.

Phase III: Evolution - Progressive Decentralization (Year 5 - Year 6)

The goal here is to evolve the protocol's consensus and operational structure, transitioning from centralized management to a community-driven model.

- **Preparation for PoS Migration:** Complete R&D for the PoS migration, publish specifications, and launch a public testnet.
- **Implementation of On-Chain Governance:** Fully deploy the on-chain governance module allowing VBC holders to submit and vote on VIPs.
- **Start of Network Operation Decentralization:** Gradually expand the participation of community-operated nodes, beginning the decentralization of network operations away from just Digitalregion, Inc.'s core nodes.
- **Mainnet PoS Migration (The Merge):** After governance approval, seamlessly migrate the mainnet consensus from PoW to PoS.

Phase IV: Horizon - Realizing the Open Metaverse (Year 7 and Beyond)

This phase aims to establish a fully decentralized governance and operational structure and to promote R&D for VirBiCoin to remain a sustainable foundation for the open Metaverse.

- **Full Authority Transfer to DAO:** Completely transfer network management authority from Digitalregion, Inc. to the VirBiCoin DAO.
- **R&D on Advanced Scaling Solutions:** Begin R&D on Layer 2 solutions like ZK-rollups to achieve the further scalability required by the future Metaverse.
- **Enhancement of Cross-Chain Interoperability:** Strengthen protocol-level interoperability for seamless communication and asset transfer with other blockchains.
- **Sustainable Ecosystem Support:** Continue funding promising projects and public goods within the ecosystem through the fully decentralized DAO.

7. Conclusion

The era of the Metaverse, where the boundaries between the digital and physical dissolve, is upon us. This new frontier holds infinite potential to fundamentally change our economy, society, and personal identities. However, realizing this grand vision requires a robust, scalable, and economically viable technological foundation to support creativity and passion. Existing blockchains, due to issues of scalability and cost, have not fully met this demand.

VirBiCoin was born as a practical solution to bridge this gap, aiming **"to evolve with the Metaverse and explore new possibilities."** We have chosen to take realistic steps rather than getting lost in idealism.

- **A Stable Start:** In the initial launch phase, by having Digitalregion, Inc. professionally manage and operate the network infrastructure on Enterprise-grade cloud, developers can focus on building the Metaverse in a stable, high-performance environment with peace of mind.

- **Proven Technology:** By adopting **EVM compatibility** and **Proof-of-Work** consensus, we offer a platform that is both familiar to developers worldwide and possesses the highest level of security.

- **A Clear Path to the Future:** We have a clear roadmap for **"progressive decentralization,"** starting with centralized management and leading to a **migration to PoS** and **community governance via a DAO.** This is a realistic approach to achieving the dual goals of stability and decentralization.

VirBiCoin does not aim to be just another fast blockchain. Our goal is to build the foundation of an open Metaverse economy where creators are duly rewarded, users truly own their digital assets, and everyone can participate freely. The architecture, tokenomics, and growth strategy outlined in this whitepaper are the blueprint for realizing that vision.

The future of the Metaverse should be built not by a few giant corporations, but by the cooperation and creativity of a decentralized community. We wholeheartedly invite developers, creators, investors, and future citizens of the Metaverse to join us on this journey. Together, let's build a new chapter for the open digital world on VirBiCoin.

Published: Jun 1, 2025
Last Updated: Jun 1, 2025
Version: 1.0

Author: Digitalregion, Inc.