

BLOCKFORGE

MINING POOL WHITE PAPER



STRATUM

MULTI-COIN

TRANSPARENT

Transparent Multi-Coin Cryptocurrency Mining Infrastructure

Version 1.0 | September 2026

BlockForgePool.com

MAKE MINING FUN AGAIN.

Abstract

BlockForge is a multi-coin cryptocurrency mining pool designed to provide miners with reliable, transparent, and accessible infrastructure for participating in Proof-of-Work blockchain networks. The platform was created around a straightforward principle: mining infrastructure should provide miners with clear statistics, flexible connection options, dependable block submission, and an engaging community experience without obscuring how mining actually works.

BlockForge operates its own mining infrastructure, including cryptocurrency nodes, Stratum services, share processing, database services, monitoring systems, and a public-facing mining platform. The system supports miners ranging from small hobby devices to substantially larger mining operations and rental hashpower by providing multiple connection and difficulty options.

BlockForge does not promise blocks, profits, or improved mathematical luck. Cryptocurrency mining is probabilistic. BlockForge's role is to provide infrastructure capable of efficiently distributing mining work, processing valid shares, identifying block candidates, submitting valid blocks to their respective networks, and maintaining useful records for miners.

Document Status

This white paper describes BlockForge as of Version 1.0. BlockForge is actively developed; supported networks, features, fees, infrastructure, and technical implementation may change over time.

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1. Introduction

Proof-of-Work cryptocurrencies depend upon miners performing computational work to secure their networks, validate blockchain history, and compete for newly generated blocks.

While miners can communicate directly with cryptocurrency nodes, mining pools provide specialized infrastructure between mining hardware and blockchain networks.

BlockForge was created to provide that infrastructure across multiple Proof-of-Work cryptocurrencies while maintaining an environment suitable for both individual miners and larger mining operations.

Transparency

Miners should be able to see what their equipment is doing.

Accessibility

Small miners should be able to participate alongside larger mining operations.

Reliability

Mining infrastructure should minimize unnecessary interruptions between miners and blockchain networks.

Flexibility

Different mining devices and hashrates require different share-difficulty configurations.

Community

Mining should remain technically interesting and enjoyable rather than becoming nothing more than an anonymous connection to a server.

BlockForge's broader goal is simple: Make Mining Fun Again.

2. What BlockForge Is

BlockForge is mining infrastructure connecting cryptocurrency miners with supported Proof-of-Work blockchain networks.

Miner → BlockForge Stratum → Pool Engine → Coin Node → Blockchain Network

A miner connects to a BlockForge Stratum endpoint and receives mining work derived from current blockchain information. The miner performs hashing operations and submits qualifying shares to BlockForge.

BlockForge validates those submissions against the appropriate mining job and difficulty requirements. Most submitted shares demonstrate mining work but do not meet the cryptocurrency network's current block target.

When a submitted result satisfies the network's requirements for a valid block, BlockForge can construct and submit that block through the appropriate cryptocurrency node. The network ultimately determines whether that block is valid and accepted.

3. BlockForge Architecture

BlockForge uses a multi-layer architecture separating blockchain nodes, mining connections, share processing, data storage, and the public website.

3.1 Cryptocurrency Nodes

BlockForge operates full-node software for supported cryptocurrencies. These nodes communicate with their respective peer-to-peer blockchain networks and provide BlockForge with information including current chain state and candidate block templates.

Nodes are also responsible for submitting valid blocks discovered through BlockForge. Operating independent nodes reduces dependence on outside mining infrastructure and allows BlockForge to interact directly with supported blockchain networks.

3.2 Mining Pool Engine

BlockForge's mining backend is based on a customized implementation of mkpool. The software has been modified and expanded as BlockForge has developed.

- Receiving blockchain work from coin nodes
- Creating mining jobs
- Managing miner connections
- Processing Stratum requests
- Assigning share difficulty
- Validating submitted shares
- Recording mining activity
- Detecting block candidates
- Submitting qualifying blocks
- Supplying mining information to other BlockForge services

3.3 Stratum Services

Mining hardware communicates with BlockForge through Stratum endpoints. Different ports may be provided for different miner classes and starting difficulties, allowing BlockForge to accommodate devices ranging from hobby miners to large ASIC deployments and rented hashpower.

3.4 Data Layer

Mining events and statistics are recorded in BlockForge's database infrastructure. Stored information can be used to provide connected workers, miner addresses, worker and pool hashrate, share difficulty, best shares, connection activity, blocks discovered, and other mining statistics.

4. Share Difficulty

One of the most important concepts in pooled cryptocurrency mining is share difficulty. A share represents proof that a miner performed a measurable amount of hashing work.

BlockForge may assign a share difficulty substantially below the blockchain network's block difficulty. This allows miners to regularly demonstrate their work. A miner could submit thousands of valid pool shares without discovering a block.

Those shares remain useful for measuring mining activity, but they are not blocks. A block is discovered only when a miner produces a hash satisfying the target required by the cryptocurrency network.

Increasing a miner's assigned share difficulty does not inherently increase that miner's probability of discovering a block. The miner's hashrate and the network target determine the underlying probability.

5. Variable Difficulty - VarDiff

BlockForge supports Variable Difficulty, commonly called VarDiff, on appropriate mining endpoints. VarDiff allows the pool to dynamically adjust the difficulty assigned to a miner.

A lower-hashrate miner generally requires lower difficulty to submit shares at a useful interval. A much larger miner submitting at the same difficulty could generate an excessive number of shares.

Lower hashrate → lower share difficulty | Higher hashrate → higher share difficulty

The objective is efficient share processing and useful statistical measurement - not changing the miner's fundamental probability of finding a block. BlockForge may also provide ports with different minimum or starting difficulties for specialized mining equipment and hashpower rental services.

6. Workers and Mining Farms

BlockForge allows mining activity to be organized beyond a simple wallet connection. Individual mining devices can use worker identifiers, allowing miners to distinguish between different machines.

BlockForge has also developed a Name Your Farm system. This allows miners operating groups of equipment to establish a recognizable farm identity within the BlockForge ecosystem.

- Individual workers
- Groups of miners
- Mining farms
- Different mining locations or configurations

Worker-level information can also help miners identify equipment that is underperforming or disconnected.

7. Hashrate Measurement

Pool-reported hashrate is an estimate derived from submitted mining work. It is not a direct measurement of every hash produced inside a miner.

As a result, a miner's locally displayed hashrate and BlockForge's calculated hashrate may temporarily differ. Short measurement periods can produce significant fluctuations; longer periods generally provide a more stable representation.

BlockForge has developed its statistics system to update mining information frequently while still accounting for the statistical nature of share-based hashrate estimation.

8. Best Shares

BlockForge tracks share difficulty to provide miners with information about particularly strong shares produced by their equipment. Best-share tracking gives miners another way to monitor mining performance beyond hashrate alone.

A high-difficulty share can be interesting and can demonstrate that a miner came closer to the current network target than its ordinary shares. However, previous shares do not influence future mining probability.

Every new hash attempt represents another independent opportunity to satisfy the network target.

9. Block Discovery

When a miner submits work to BlockForge, the pool evaluates that work against both the miner's assigned share target and the blockchain network target.

Submitted work → Pool share target? → Record valid share



Network target? → Block candidate → Coin node → Network validation

If the work satisfies only the pool share target, it is recorded as a valid share. If it also satisfies the applicable network target and all required consensus conditions, it becomes a block candidate.

BlockForge then attempts to submit the candidate through the appropriate cryptocurrency node. The blockchain network independently validates the block. Only a block accepted under the network's consensus rules becomes part of the blockchain.

BlockForge cannot guarantee that any miner or pool will discover a block within a particular period.

10. Pool Mining and Solo Mining

Pool Mining

Pool mining combines mining activity and uses an established reward methodology to distribute eligible rewards according to the rules of the applicable BlockForge pool. Pool mining can reduce the extreme reward variance associated with completely independent solo mining.

Solo Mining

Solo-oriented mining allows miners to pursue blocks without sharing the block reward in the same manner as a conventional proportional mining pool, subject to the applicable BlockForge solo-pool rules and fees.

Solo mining carries substantially greater variance. A miner may discover a block quickly, or may mine for an extended period without finding one. BlockForge infrastructure does not change the underlying probability created by miner hashrate and network difficulty.

The exact reward and payout rules for each BlockForge mining mode are governed by the currently published pool terms and coin-specific configuration.

11. Pool Fees

Standard published BlockForge pool fee: 1%

Fees help support the infrastructure necessary to operate the service, including servers, blockchain nodes, storage, network connectivity, software development, monitoring, maintenance, and continued expansion.

Any coin, mining mode, promotion, or service using a different fee should disclose that difference through the applicable BlockForge interface or terms. BlockForge intends to keep fee information visible rather than hiding mining charges from users.

12. Multi-Coin Mining

BlockForge is designed as multi-coin mining infrastructure rather than infrastructure tied permanently to one blockchain. Supported networks can change as BlockForge develops and as cryptocurrency networks themselves change.

Adding a cryptocurrency requires substantially more than displaying a coin on a website.

- Node software
- Blockchain synchronization
- RPC communication
- Block templates
- Address validation
- Coinbase construction
- Consensus-specific requirements
- Stratum jobs
- Share validation
- Block submission
- Reward handling
- Monitoring

For this reason, a cryptocurrency should not be considered supported merely because it uses a familiar Proof-of-Work algorithm. Each blockchain requires technical validation before production mining support is appropriate.

13. Mining Hardware

BlockForge is intended to support compatible mining hardware using standard mining protocols supported by each BlockForge endpoint.

- ASIC miners
- Small hobby ASIC devices

- Mining farms
- Rental hashpower
- Other compatible mining equipment

The appropriate BlockForge endpoint depends upon the cryptocurrency, mining algorithm, hashrate, and required starting difficulty.

14. Transparency

Transparency is an important design objective for BlockForge. Where practical, BlockForge provides public mining statistics that allow miners to inspect pool activity rather than relying solely on promotional claims.

- Pool hashrate
- Online miners
- Workers
- Blocks found
- Share information
- Best-share information
- Worker activity
- Mining history
- Network statistics

Statistics displayed by BlockForge should be understood within their technical context. Hashrate is estimated from submitted work, network values change, and recently submitted information may require processing before appearing publicly.

15. Security

Mining infrastructure is continuously exposed to the public Internet and therefore requires multiple layers of operational security.

BlockForge's security strategy includes separation between public-facing services and critical blockchain components where practical, controlled RPC access, service monitoring, network configuration, software maintenance, and database protections.

No Internet-connected system can truthfully claim absolute security. BlockForge therefore treats security as an ongoing operational process rather than a feature that can be permanently completed.

BlockForge should never require a miner's private wallet key in order to perform ordinary mining operations.

16. Reliability and Availability

BlockForge is designed to provide dependable mining connectivity, but uninterrupted service cannot be guaranteed.

- Internet outages
- Hardware failures
- Software defects
- Blockchain-node problems
- Cryptocurrency network conditions
- Database failures
- Maintenance
- Upstream network failures
- Distributed attacks
- Protocol changes
- Hard forks
- Events outside BlockForge's control

Planned maintenance should be communicated when practical. BlockForge will continue developing monitoring and recovery systems intended to reduce avoidable mining interruptions.

17. Community

BlockForge was created not only as mining infrastructure but also as a mining community. Features such as worker identities, farm names, block celebrations, best-share tracking, mining statistics, and competitions are intended to make participation more engaging.

BlockForge may periodically conduct community competitions involving metrics such as hashrate or submitted-share difficulty. Such competitions are separate from the blockchain's consensus mechanism and do not change a miner's mathematical probability of discovering a block.

18. Development Philosophy

BUILD → TEST → MEASURE → IMPROVE

BlockForge is an actively developed platform. Features are tested against actual mining equipment and real blockchain infrastructure before being treated as mature production capabilities.

BlockForge favors measurable mining behavior over unsupported performance claims. The project will continue to evolve as additional cryptocurrencies, mining hardware, protocols, monitoring systems, and community features become relevant.

19. Roadmap

- Additional Proof-of-Work cryptocurrencies
- Expanded miner analytics
- Improved worker monitoring
- Expanded farm-management capabilities
- Enhanced block statistics
- Additional difficulty tiers
- Improved automated monitoring
- Better infrastructure redundancy
- Expanded historical statistics
- Additional miner notifications
- Improved pool-status reporting
- Additional community competitions and achievements
- Continued Stratum and backend optimization
- Additional security and reliability improvements

Roadmap items represent development goals and should not be interpreted as guaranteed release commitments.

20. Mining Economics and Risk

Cryptocurrency mining involves substantial financial risk. Profitability can change rapidly due to cryptocurrency market prices, network difficulty, network hashrate, block rewards, transaction fees, electricity costs, hardware efficiency, hardware failure, pool fees, regulatory changes, and market conditions.

Historical mining performance does not guarantee future results. A miner can operate correctly and still fail to discover a block. Similarly, a miner can discover a block much sooner than statistical averages would suggest.

This variance is an inherent property of Proof-of-Work mining.

21. No Guarantee of Mining Results

BlockForge does not guarantee block discovery, mining profitability, a particular share difficulty, a particular hashrate measurement, continuous service availability, cryptocurrency value, a particular payout amount, or future network conditions.

Mining statistics and probability estimates should be treated as informational rather than guarantees of future performance.

22. Miner Responsibility

By connecting mining equipment to BlockForge, miners remain responsible for determining whether cryptocurrency mining is appropriate and lawful for them.

- Mining equipment
- Electricity consumption
- Internet connectivity
- Wallet addresses
- Wallet security
- Tax obligations
- Applicable laws and regulations
- Hardware configuration
- Cryptocurrency decisions

Connecting to BlockForge does not create a guarantee of financial return.

23. BlockForge's Role

BlockForge does not control the cryptocurrencies mined through its infrastructure. The respective decentralized blockchain networks establish their own consensus rules.

BlockForge provides infrastructure allowing compatible miners to participate in those networks. BlockForge does not control network difficulty, cryptocurrency prices, blockchain consensus, market liquidity, exchange availability, or the future development of third-party cryptocurrency projects.

24. Conclusion

BlockForge exists to provide miners with transparent, flexible, and continuously improving cryptocurrency mining infrastructure.

The project combines independent blockchain nodes, customized mining-pool software, Stratum services, share processing, worker statistics, farm organization, block tracking, and community features into a unified multi-coin mining platform.

Its objective is not to promise miners impossible advantages. Its objective is to operate mining infrastructure well.

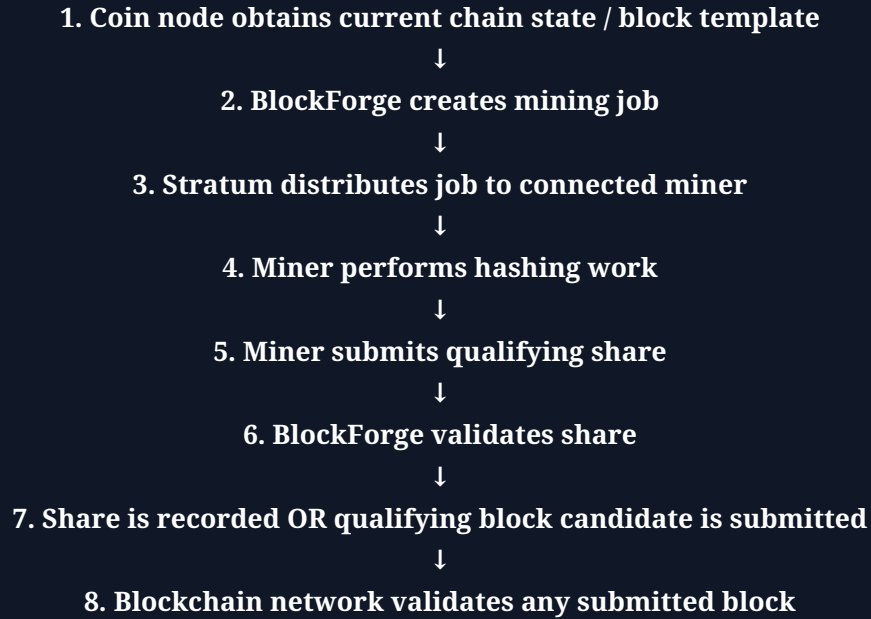
Reliable infrastructure

Transparent mining information

**A mining experience people enjoy
participating in**

MAKE MINING FUN AGAIN.

Appendix A. Technical Flow Summary



This diagram is intentionally simplified. Coin-specific consensus requirements, coinbase construction, protocol details, and network behavior can differ between supported blockchains.

Appendix B. Terminology

Term	Meaning
ASIC	Application-Specific Integrated Circuit; hardware designed for a specialized computational task such as cryptocurrency hashing.
Block candidate	Mining work that appears to satisfy the blockchain network target and is eligible for submission to the network.
Full node	Software that independently follows and validates a blockchain according to that network's consensus rules.
Hashrate	The number of hashing attempts performed per unit of time.
Network difficulty	A representation of how difficult it is to produce work satisfying the blockchain's current block target.
Share	Proof of mining work that satisfies the pool-

assigned share target.

Stratum

A mining communication protocol used between miners and pool infrastructure.

VarDiff

Variable Difficulty; dynamic adjustment of pool share difficulty based on mining performance.

Publication Notice & Disclaimer

This white paper describes the BlockForge platform, its design objectives, and its intended operation as of Version 1.0. BlockForge is an actively developed service. Features, supported cryptocurrencies, fees, infrastructure, and technical implementation may change as the platform evolves.

This document is provided for informational purposes only and does not constitute financial, investment, tax, accounting, or legal advice.

Cryptocurrency mining is probabilistic and involves financial and operational risk. BlockForge does not guarantee block discovery, mining profitability, cryptocurrency value, uninterrupted service, or future network conditions.

References to future features or development plans describe goals rather than binding commitments.

Miners are responsible for protecting their wallets, private keys, equipment, credentials, and network access, and for complying with laws and obligations applicable to them.

BlockForge should never require a miner's private wallet key for ordinary mining.

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