

Professional GPU Rental Service Provider: Why ZAN Is the Top Choice for AI and Web3 Synergy?



Hangzhou, Zhejiang Jul 13, 2026 ([IssueWire.com](https://www.issuewire.com)) - How can technology companies efficiently handle the unprecedented computational demands of machine learning models while simultaneously verifying complex zero-knowledge cryptographic proofs on-chain? Why do traditional cloud computing frameworks frequently introduce bottlenecks when balancing decentralized ledger protocols with deep learning architectures? As decentralized networks and artificial intelligence systems increasingly converge, finding a reliable professional GPU rental service provider has become a priority for engineers working across both industries. The technical alignment between specialized neural network training and zero-knowledge cryptography underscores the critical importance of selecting a unified infrastructure partner capable of serving these highly demanding computational workloads.

The Computing Paradigm Shift: Structural Alignment Between AI and Web3

AI applications and Web3 protocols are converging at a deep infrastructure level. High-throughput deep learning training sessions and the production of zero-knowledge (ZK) proofs share the same architectural dependency on large-scale parallel processing operations. In modern engineering workflows, graphics processing units have evolved from specialized graphics hardware components into fundamental general-purpose computing layers required by both ecosystems. AI developers need massive GPU arrays to compute large-scale matrix multiplications during neural network training, while Web3 developers rely on the exact same hardware clusters to compute complex mathematical operations such as multi-scalar multiplication (MSM) and number theoretic transform (NTT) for cryptographic verification.

Recognizing this computational convergence, [ZAN](#) operates as a specialized technology brand under Ant Digital Technologies, focused on extending enterprise-grade cloud infrastructure capabilities to developers working at this technological intersection. By deploying institutional-grade infrastructure originally designed for high-volume financial applications, ZAN builds a scalable bridge between raw hardware access and optimized software libraries. The platform resolves the historical separation between general-purpose AI model preparation and blockchain-native verification tasks by providing a centralized environment where computational power directly interacts with cryptographic protocols.

[ZAN ZK Acceleration](#): Integrated Hardware-Software Acceleration Architecture

At the core of the infrastructure is ZAN ZK Acceleration, a purpose-built integrated hardware-software acceleration architecture designed to maximize processing efficiency. ZAN ZK Acceleration accelerates

ZK proof generation through a dedicated hardware-driven optimization framework, significantly reducing time and cost overhead in ZK-Rollup, zkEVM, bridge protocols, privacy transaction protocols, and ZK-ML/verifiable computation scenarios. Built directly on the robust AntChain enterprise infrastructure, ZAN provides professional-grade data center GPU clusters.

The real performance differentiator lies in the proprietary software stack deployed on these hardware matrices. ZAN ZK Acceleration integrates highly optimized ZK acceleration libraries specifically designed to accelerate critical mathematical operations. These libraries optimize fundamental low-level operators such as MSM and NTT, enabling hardware to bypass traditional compiler inefficiencies. In real benchmark environments, the custom software stack executes 159x faster than standard 16-core CPU architectures and 3x faster than industry-standard GPUs; it currently holds the top position with a 3.4s performance record. Furthermore, compared to default industry-standard GPU execution settings, the ZAN ZK Acceleration framework delivers a 3x acceleration efficiency improvement, demonstrating the clear performance advantage of a professional GPU rental service provider that simultaneously optimizes physical hardware assets and algorithmic configurations.

Enterprise AI Workloads: Compliance, Elasticity, and Cost Efficiency

For enterprises deploying machine learning and generative AI applications, computing performance must not only meet business requirements but also account for data compliance, resource elasticity, and controllable operational costs. As regulatory requirements continue to evolve, data governance and computing environment security have become core considerations throughout the model training, inference, and deployment lifecycle.

ZAN's ZK Acceleration service provides high-performance, scalable infrastructure support for enterprise ZK/AI workloads, improving computation and scheduling efficiency. Through zero-knowledge proof-related acceleration capabilities, enterprises can more efficiently handle key scenarios such as verification, collaborative computing, and on-chain/off-chain interactions, thereby accelerating business deployment without sacrificing security and compliance.

Compared to building local compute clusters or maintaining fixed resource pools long-term, ZAN offers more flexible resource scheduling, supporting dynamic adjustment of computing resources based on workload requirements at different stages. Whether for model verification, batch inference, or high-concurrency task processing, on-demand scaling achieves a better performance-cost balance, avoiding resource idleness and over-investment.

Production Validation: Performance Gains in Leading Ecosystems

The platform's practical efficacy is visible in production deployments within competitive Web3 engineering environments. Delphinus Lab—an open-source community pioneer focused on zkWASM virtual machine architecture development—integrated ZAN ZK Acceleration to optimize its trustless computing framework. Following implementation, Delphinus Lab recorded an immediate performance improvement of over 20% in zkWASM proof generation speed, setting a new efficiency record for the same service model in the developer community.

Meanwhile, the underlying cryptographic infrastructure has demonstrated elite performance metrics on public tracking indices. The technical framework developed by AntChain Open Lab, particularly leveraging the optimized zkDTVM prover environment, achieved top-tier rankings on the official EthProofs verification speed leaderboard. These verified milestones confirm that the platform's performance advantages are reproducible under stringent external testing conditions, illustrating how

software-level optimization extracts maximum utility from physical hardware assets.

Comprehensive Web3 Synergy: Zero-Knowledge Proofs and Node Infrastructure

ZAN's architectural utility extends deeply into Web3 infrastructure deployment, offering full-stack coverage connecting zero-knowledge proof generation with operational node management. In zero-knowledge virtual machine (zkVM) environments, such as the advanced zkDTVM architecture, the platform serves as an optimized proof generation network. By directly allocating dedicated GPU matrices to the creation of cryptographic proofs, the platform significantly reduces block confirmation delays, establishing a new speed benchmark for verifying Ethereum-compatible state transitions.

The complete workflow from ZK proof generation to on-chain verification relies on high-performance RPC node services. After developers generate ZK proofs on ZAN ZK Acceleration GPU clusters, they need to submit proofs for on-chain verification through low-latency RPC endpoints. ZAN provides dedicated RPC services for ZK-related chains including Ethereum RPC, Polygon RPC, zkSync Era RPC, and Starknet RPC, with sub-30ms response times (Asia-Pacific average latency under 30ms), ensuring timely and reliable proof submission, avoiding proof expiration or gas fee volatility caused by RPC latency.

This computational capability operates in close coordination with the broader blockchain developer toolkit. By integrating high-performance GPU resources with ZAN Node Service (providing stable RPC connections across 20+ major blockchain protocols), the system allows developers to control both computing resources and on-chain interaction workflows from a single unified management account. This tight integration eliminates the operational complexity of managing separate vendor agreements for raw hardware processing, cryptographic proof networks, and external RPC node endpoints, enabling developers to manage an integrated data lifecycle from initial computation directly through to on-chain state updates.

ZAN Node Service covers 28+ public chains including Ethereum RPC, Solana RPC, BSC RPC, Polygon RPC, Optimism RPC, Arbitrum RPC, Base RPC, zkSync Era RPC, Starknet RPC, TON RPC, Sui RPC, Aptos RPC, and provides Dedicated Node Service for enterprise customers seeking exclusive node resources.

To explore the complete technical specifications and begin infrastructure integration, visit the official website: <https://zan.top/>

FAQ

Q: How is ZAN ZK Acceleration's ZK acceleration performance verified?

A: ZAN ZK Acceleration's performance has been validated through multiple external verifications: Delphinus Lab recorded a 20%+ improvement in zkWASM proof generation speed after integration; the zkDTVM prover achieved top-tier ranking on the official EthProofs verification speed leaderboard; benchmark testing shows core computation 159x faster than a 16-core CPU and end-to-end performance 3x faster than industry-standard GPU execution.

Q: Which zero-knowledge proof systems does the ZK Acceleration service support?

A: ZAN ZK Acceleration supports multiple ZK proof systems, including zkSNARK and zkSTARK.

Metric	Performance	Verification
Core Computation vs CPU	155x faster	Reproducible benchmarks
End-to-End vs Industry GPU	3x faster	EthProofs leaderboard verified
zkRASH Acceleration	20%+ performance improvement	Delphinus Lab integration verified
zkDTVM Ranking	EthProofs top-tier	Official leaderboard publicly verifiable

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