

Ziren: ZKM's Scalable, GPU-Accelerated zkVM for Real-World Applications

Ziren delivers GPU-accelerated proving, optimal ISA efficiency, and real-world deployability - unlocking ZK for mainstream development.

OAKLAND, CA, UNITED STATES, July 10, 2025 /EINPresswire.com/ -- [ZKM](#) has

announced the launch of [Ziren](#), the next major release of its zkVM, formerly known as zkMIPS. This rebrand and upgrade mark the transition from years of building, testing, and optimizing, to a fully

scalable, production-ready and developer-friendly ZK proving infrastructure. With native support for Rust and C (Golang coming soon), GPU-accelerated proving, and support for distributed execution, Ziren turns ZK into a performant, general-purpose tool for systems engineers, app developers, and protocol builders.



Build with Confidence. Deploy without Compromise.

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Ming Guo, Co-founder & Chief Scientist at ZKM

The Bigger Picture

For years, ZK systems remained limited to research environments, gated behind custom languages, complex toolchains, and significant cryptographic expertise. In a bid to make ZK more accessible, most teams have defaulted to the sub-optimal RISC-V instruction set architecture as their zkVMs backbone.

Ziren is built on the MIPS32r2 ISA, which is stable and inherently more efficient for ZK proving, enabling everyday developers to optimally build real-world, trust-minimized applications without ever needing to modify their programming workflows. This choice required deeper engineering across the LLVM toolchain, backend logic, and constraint system - but, with everything else being equal, results in a provably faster and more scalable proving infrastructure.

“For the first time, Ziren delivers a fully scalable and developer friendly general-purpose zkVM built on the right foundations” said Ming Guo, Co-Founder and Chief Scientist at ZKM. “It’s already proven itself as the most performant on CPU. Now, we’re taking it to the next level with GPU acceleration. If you’ve been searching for the optimal proving stack to power your application, you’ve found it.”

A Full-Stack zkVM for Real Applications

Ziren introduces GPU-based acceleration, modular constraint optimization, and a distributed Network Prover architecture, making it possible to verify application logic - onchain or offchain - at production scale and latency. Developers can compile ordinary programs into Ziren and generate execution proofs that are verifiable on Ethereum, Bitcoin (via BitVM2/3), or any SNARK/STARK-compatible chain.

Ziren is already powering high-impact applications like [GOAT Network](#), forming the proving backbone for a Bitcoin-native zkRollup that enables Ethereum-style programmability while preserving L1 Bitcoin security - no bridges, no trusted parties, and no custom VM.

“When we set out to scale Bitcoin, we needed a system we could trust from top to bottom - not just abstracted performance, but guaranteed stability and efficiency at the circuit level” explained Kevin Liu, CEO at ZKM and Core Contributor at GOAT Network. “Ziren is the result of that need: a zero-knowledge infrastructure layer that gives us complete confidence in every proof we generate.”

Realtime Proving is Near

Recent updates to [ethproofs.org](#) showcase Ziren’s progress toward making real-time proving a reality. By improving how blockchain data is processed - using a faster virtual machine and parallel data fetching - ZKM cut preparation time from over five minutes to under thirty seconds.

The result: proof throughput more than twice as fast and far more practical for real-world use.

Availability

Ziren is available now - developers can start integrating zero-knowledge proofs into their existing applications performantly, with minimal overhead.

Documentation, tooling, and community support are live at:

Docs: <https://docs.zkm.io/>

GitHub: <https://github.com/ProjectZKM/Ziren>

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