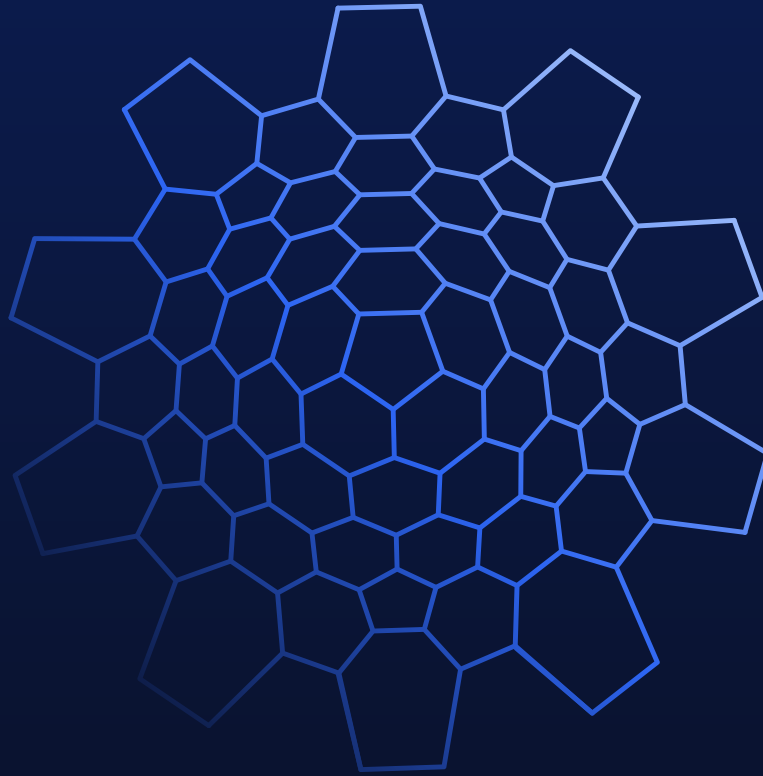




Lime Institutional



Case Study

Building Together:

Seven Years Inside the Hedera Ecosystem

How a foundation of mutual trust and shared engineering helped build the infrastructure that enterprises rely on today.

When institutions look to adopt digital assets, they are often presented with a rigid choice: use a completely public, open network or build a closed, private ledger. But the reality of enterprise technology is much more nuanced. Businesses need the liquidity and shared standards of public networks, combined with the predictability, security, and governance of enterprise systems.

Over the past seven years, LimeChain and Hedera have worked side-by-side to bridge this gap. This case study reflects on a partnership built on mutual respect, deep technical collaboration, and a shared commitment to making distributed ledger technology practical for the world's largest organizations.

At a Glance

7

Years of partnership
continuous technical
collaboration

14

Hedera Improvement
Proposals (HIPs)
spearheaded

300+

Digital asset projects
delivered across the
group

The Engagement

- **Client / Partner:** Hedera, an enterprise-grade public network governed by a council of leading global organizations.
- **Engagement Period:** 2019 – present.
- **Focus:** Core protocol contribution, EVM compatibility, developer tooling, and end-user applications.
- **Governance Role:** Seat on the Linux Foundation Decentralized Trust (LFDT) Technical Steering Committee for the Hiero codebase.

Why Hedera? A Shared Vision for Enterprise Adoption

As an engineering firm, we evaluate a lot of technologies. We naturally gravitated toward Hedera because its underlying architecture addresses the practical realities that businesses face every day. Four key properties form the foundation of our work together:

1 Predictable, low fees

Hedera's transaction fees are pegged to the US Dollar. For a corporate treasury or back-office team, this means they can accurately budget for a year of network usage without worrying about sudden spikes in cryptocurrency prices.

2 Fast, reliable settlement

The hashgraph consensus algorithm confirms transactions in seconds. For real-time applications like payment routing or collateral management, this speed is essential.

3 Built-in token management

The Hedera Token Service (HTS) allows organizations to create and manage tokens without needing to write custom, complex smart contracts. This drastically reduces the risk of bugs and lowers auditing costs.

4 Purpose-built services

Instead of forcing every action through a single virtual machine, Hedera offers specific, optimized tools — like the Consensus Service for logging data and the Smart Contract Service for executing logic.

Growing Together: The Path We Took

Our relationship with Hedera started in 2019. We didn't begin by trying to rewrite the core protocol; we started by building trust.

Our first collaboration was a straightforward proof-of-concept using the Hedera Consensus Service (HCS) to sync records between Google Sheets and Microsoft 365. It wasn't flashy, but it proved a crucial point: when two businesses use different systems, Hedera can act as a neutral, tamper-proof middle ground. It helped non-crypto-native organizations understand exactly why this technology matters.

From that successful first step, our partnership naturally deepened. Over the next seven years, we moved from building simple applications to helping shape the open-source Hiero codebase that powers the Hedera network today.

What We Built: Connecting Worlds

Our core mission with Hedera has been removing the friction for developers and enterprises wanting to build on the network.

Powering Developer Experience

At its core, a network's adoption is entirely determined by its Developer Experience (DX) and SDKs are the primary interface where that experience is won or lost. They are the essential tools that application developers interact with daily, acting as the ultimate translator between low-level network protocol and productive business logic. A well-designed SDK abstracts away complex cryptographic operations and plumbing, allowing the community to build safely and quickly.

While our contributions span the broader ecosystem's tooling, we place a massive emphasis on maintaining the Hedera Java SDK. Because the vast majority of enterprise banking and legacy backend systems run on Java rather than blockchain-specific languages, this SDK is a critical enterprise gateway. By keeping it highly intuitive, robust, and idiomatic, we ensure corporate development teams have a familiar, world-class experience when connecting their existing multi-billion dollar systems to Hedera's full suite of services.

Bridging Hedera and the Ethereum Ecosystem

For an enterprise pilot to succeed, it needs to work with the tools developers already know. We built the Hedera JSON-RPC Relay, a vital piece of infrastructure that translates Hedera's native protocol into the language used by standard Ethereum tools, wallets, and block explorers. Today, it serves as the primary bridge connecting Hedera to the broader Web3 ecosystem.

Speaking the Language of Enterprise

Most enterprise banking and backend systems run on Java, not blockchain-specific languages. To make integration seamless, we maintain the Hedera Java SDK. It gives corporate development teams a familiar, reliable way to connect their existing systems to Hedera's full suite of services.

Creating Safe Environments for Innovation

Security and compliance teams need safe spaces to test software before it goes live. We helped develop the Hedera / Hiero Local Node, which allows developers to run a complete, self-contained version of the network on their own laptops. It's an essential starting point for secure, private development.

Shaping the Standard

Working closely with the Hedera team, we've helped draft 14 Hedera Improvement Proposals (HIPs) to ensure the network continuously adapts to industry needs. Two notable examples include:

- **HIP-415 (Introduction of Blocks):** Traditional networks like Ethereum organize data into blocks, a format many regulatory and accounting systems expect. We helped create a system that smoothly maps Hedera's unique, block-less transaction ordering into a standard block format, making compliance reporting much easier.

- **HIP-376 (Standardizing Tokens):** We added support for standard industry functions (like ERC-20 and ERC-721) inside Hedera's smart contracts. This means an enterprise can confidently bring a project from an Ethereum test environment over to Hedera without having to rewrite and re-audit all their code.

Proving the Technology in the Real World

We believe the best way to understand infrastructure is to use it. We've built several full-scale applications on Hedera to ensure the network performs under real-world conditions.

DEFI

HeliSwap

A decentralized exchange that proves Hedera can handle complex trading logic and routing without slowing down.

CUSTODY

MultiSig

A multi-signature wallet designed for institutional custody, ensuring no single person can move corporate funds unilaterally.

REAL-TIME

TradeGames

A market prediction platform that tested Hedera's ability to handle high-frequency, sustained user traffic.

What We've Learned Along the Way

After seven years of deep collaboration, a few key themes stand out:

1

Integration takes care

Connecting different technological worlds isn't magic; it requires careful, deliberate engineering. The translation layers we built are essential for making adoption seamless.

2

The user experience is everything

Complex key management and confusing fees are the biggest hurdles for new users. Designing simple, intuitive interfaces is just as important as the underlying code.

3

Privacy is the next frontier

Technologies like Zero-Knowledge Proofs are moving from theory to reality. They will soon allow banks to prove compliance without exposing sensitive customer data.

4

The market is converging

Businesses want the privacy and control of private systems, but the reach and liquidity of public networks. Hedera's council-governed model proves that this middle ground isn't just possible — it works.

Looking Ahead

The conversation around digital assets has matured. It is no longer about whether the technology works, but how best to apply it. We are particularly excited about the rise of real-world asset (RWA) tokenization, where credibility, predictable costs, and interoperability — the exact pillars we've spent years building with Hedera — are the keys to long-term success.

Our five-year journey with Hedera is a testament to what happens when two teams share a commitment to open-mindedness, quality engineering, and solving real problems.

Hedera's commitment to sound architecture and protocol-level problem solving has been instrumental in making Web3 viable for institutions. Their focus on building critical, unglamorous infrastructure — rather than theoretical maps — hasn't just expanded the network's capabilities; it has delivered the operational proof developers and enterprises need to finally run real workloads.

— Nick Todorov, Co-Founder, Board Member, and CEO of Lime Institutional

Frequently Asked Questions

Why should an institution choose a public network like Hedera over a private, closed ledger?

When institutions adopt digital assets, they often feel forced to choose between the liquidity of public networks and the security of private ones. Hedera bridges this gap. It offers the shared standards and reach of a public network, but it is governed by a council of leading global organizations. This hybrid approach delivers the predictability, security, and governance that enterprise back-offices require.

How does the network handle transaction cost volatility, a major risk for corporate treasuries?

Cost predictability is built into the protocol. Hedera's transaction fees are pegged to the US Dollar, rather than a volatile cryptocurrency. This means corporate treasuries and back-office teams can accurately forecast and budget their annual network usage without worrying about sudden market spikes.

Does tokenizing assets on Hedera require writing complex, high-risk smart contracts?

No. While Hedera fully supports smart contracts, it also offers the Hedera Token Service (HTS). HTS allows organizations to create, manage, and transfer tokens natively at the protocol level. Bypassing custom smart contracts for standard token operations drastically reduces the risk of software bugs and significantly lowers institutional auditing costs.

How difficult is it to integrate Hedera with our existing legacy banking systems?

Integration is designed to be seamless for traditional developers. Because most enterprise backend systems run on Java, LimeChain maintains the Hedera Java SDK. This provides corporate development teams with a familiar, reliable toolkit to connect existing infrastructure to Hedera without needing to learn niche, blockchain-specific coding languages.

Can we port our existing Ethereum-based assets and applications to Hedera?

Yes. Hedera is highly interoperable with the broader Web3 and Ethereum ecosystems. The JSON-RPC Relay translates Hedera's native protocol into the language used by standard Ethereum tools, wallets, and block explorers. And via Standardized Tokens (HIP-376), Hedera supports standard industry functions like ERC-20 and ERC-721 natively. Institutions can comfortably migrate projects from Ethereum test environments to Hedera without having to completely rewrite and re-audit their codebases.

How does Hedera support traditional compliance reporting and accounting workflows?

Traditional regulatory and accounting systems generally expect blockchain data to be organized into "blocks" (like Ethereum or Bitcoin). While Hedera uses a faster, block-less Hashgraph consensus algorithm, recent protocol upgrades (HIP-415) smoothly map Hedera's transaction ordering into a standard block format. This ensures seamless integration with standard compliance and reporting software.

How can our security and compliance teams safely test applications before going live?

Enterprises require safe, private spaces for innovation. Developers can utilize the Hedera / Hiero Local Node, which allows them to run a complete, self-contained version of the network directly on their own local machines. This is an essential sandbox for secure, private development and rigorous compliance testing.

What is the long-term outlook for Real-World Asset (RWA) tokenization on Hedera?

The industry conversation has moved past whether the technology works to how it can be applied. The market is aggressively converging on RWA tokenization. Hedera's foundational pillars — corporate governance, predictable costs, high-speed settlement, and deep Ethereum interoperability — make it an ideal, proven infrastructure for institutions looking to tokenize physical and financial assets for the long term.

About Lime Institutional

Lime Institutional is a strategic advisory and technology delivery firm built on the engineering foundation of more than nine years at the forefront of blockchain and digital assets development and over 300 projects delivered. We translate that deep engineering pedigree into clear, predictable, and fully executable solution paths for financial institutions and enterprises seeking to expand into the realm of digital assets safely and seamlessly.

From strategic advisory and enterprise architecture to tokenization infrastructure and full-scale implementation programs, we bring senior consultants, engineers, and architects into the room from day one — because strategy disconnected from technical reality is just another map that doesn't survive contact with the territory.

To discuss how Lime Institutional can design and deliver a blockchain solution for your financial infrastructure, visit limeinstitution.com or contact us.

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