Threading Clouds

CASE STUDY

Stabilizing a Regulated Blockchain Platform

Executive summary

Threading Clouds was engaged as an embedded infrastructure partner for a regulated financial services blockchain network after the client experienced near-complete rotation of their technical leadership and engineering staff. We stabilized operations, reconstructed institutional knowledge, centralized observability, automated client onboarding, and delivered strategic migration architectures, ensuring zero unplanned outages throughout the transition.

The challenge

Operational Fragility

Any configuration error could cascade into participant outages. With no experienced operators, every change carried elevated risk.

Knowledge Vacuum

Critical architectural decisions were undocumented. Vault key hierarchies, privacy group structures, CIDR allocations, and deployment pipelines had all left with the previous team.

Strategic Paralysis

Onboarding, cloud migration, and monitoring upgrades stalled. Without operations or knowledge, leadership stayed in reactive mode.

Continuity for a Regulated Blockchain on AWS

Near-complete staff rotation left a Hyperledger Besu blockchain platform without operational memory. Threading Clouds embedded as infrastructure partner, stabilized live regulated operations, consolidated observability, automated participant onboarding, and delivered migration architectures with zero unplanned outages.

About the customer

A regulated blockchain network operating in European financial services, built on Hyperledger Besu with multiple institutional participants. The platform carries production transaction flow under regulator scrutiny, with participant onboarding, privacy group management, and cross-environment upgrades running as continuous operations.

At a glance

INDUSTRY

Financial Services / Blockchain

REGION

Europe

PLATFORM

Hyperledger Besu on AWS

ENGAGEMENT

Embedded Infrastructure Partner

KEY SERVICES

SRE & Operations

Platform Engineering

Cloud Strategy & Architecture

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Why Threading Clouds?

Threading Clouds stepped into a live, regulated production environment mid-crisis and operated it safely while simultaneously learning it, documenting it, optimizing it, and extending it. AWS's commitment to financial-services workloads gave us the platform to execute against. The combination of deep blockchain infrastructure expertise, disciplined operational practices, and strategic advisory capability allowed us to serve as the bridge between the team that built the platform and the team that would carry it forward. The client chose Threading Clouds because we learn the system first, prove safe operations, then improve it.

The solution

Threading Clouds was engaged not as a vendor fulfilling a statement of work, but as an embedded infrastructure partner. Our approach was structured in three overlapping phases, because the business could not afford to wait for one to finish before starting the next.

Phase 1: Stabilize the Platform

We immersed ourselves in the platform's architecture: reading every configuration file, tracing every network route, mapping every Vault path, and understanding the proprietary privacy plugin at the cryptographic level. We produced comprehensive documentation that did not exist before: network topology diagrams, key management flows, participant onboarding checklists, environment-by-environment infrastructure inventories, and operational runbooks.

Phase 2: Consolidate and Optimize

Centralized observability. The existing monitoring was fragmented across six siloed Prometheus/Grafana/Alertmanager stacks. We designed and deployed a centralized observability platform on a dedicated cluster: Grafana with Mimir for metrics, Loki for logs, Tempo for traces, with cross-cluster log shipping, PII masking for regulatory compliance, and unified alerting.

Client onboarding automation. Onboarding a new participant had been a manual, multi-week process. We built a three-stage Terraform pipeline that provisions complete participant infrastructure, from AWS account bootstrapping through network connectivity to full workload deployment, with validation gates at each stage.

Cost rationalization. Systematic analysis across compute, storage, and networking: commitment-based discounts for predictable workloads, spot instances for stateless components, right-sizing based on actual utilization, and intelligent storage tiering.

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Phase 3: Extend and Advise

Cloud migration architecture. Threading Clouds produced the full migration architecture: service mapping, costed bill of materials, critical compatibility analysis, and a phased implementation plan.

Consensus protocol migration analysis. We evaluated the feasibility, risk, and timeline for migrating the consensus algorithm across all environments (a 6–9 week effort requiring coordination with every network participant), giving the client the information needed for a confident decision on timing and approach.

Results

Production service to institutional participants was never interrupted during the transition. Complete operational documentation was produced for a platform that previously had none, enabling the incoming **team to ramp up in weeks rather than months**, and routine operations continued seamlessly throughout. Infrastructure efficiency improved materially: monthly observability **costs dropped 63%** through consolidation of the six siloed monitoring stacks into a single centralized platform on AWS, and participant onboarding collapsed from **weeks to hours** through automated, validated Terraform provisioning and Ansible scripting. Strategic capacity returned: a fully costed regulated-cloud migration plan was architecturally validated and delivered to the end-customer with confidence, a risk-assessed consensus protocol roadmap unblocked a decision affecting every participant, and AWS Organization hardening recommendations were tabled for the next quarter.

Benefits

Zero unplanned outages through the transition, preserving regulator confidence and participant trust at the exact moment they would have been hardest to recover. Observability costs reduced 63% through consolidation of six Prometheus / Grafana / Alertmanager stacks onto a single Mimir/Loki/Tempo platform on AWS with better cross-environment incident correlation than any of the silos previously offered. Participant onboarding collapsed from weeks to days, freeing engineering time and shortening the sales-to-live timeline for new institutional participants. The documentation, runbooks, and topology maps produced during the engagement now serve as the institutional foundation the incoming team builds on, turning a knowledge crisis into durable, auditable operational capital. Strategic decisions that had stalled moved from blocked to architecturally validated, returning leadership to planning-mode posture for the first time in over a year.

Platform Director
Blockchain Network

We didn't just need someone to run our infrastructure. We needed someone who could learn it faster than we could teach it, because there was no one left to teach.

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Next steps

With operations stabilized and strategic capacity restored, Threading Clouds continues to support the network as embedded infrastructure partner. The roadmap ahead includes executing the planned consensus protocol migration across all environments, rolling out the regulated-cloud migration for the one major end-customer, and implementing the AWS Organization hardening program (security OU restructuring, dedicated monitoring accounts, and improved workload isolation) across the production and shared-services estate. Threading Clouds continues to advise on consensus selection, observability evolution, and FinOps discipline as the network scales to new participants.

Key highlights

Restoration of Knowledge

Reconstructed the platform's institutional knowledge from configuration artifacts when no documentation or original engineers remained. The runbooks and topology maps became the foundation for the incoming team.

Telemetry That Simply Works

Replaced six fragmented monitoring stacks with a unified Grafana/Mimir/Loki/Tempo platform on AWS — cross-environment incident correlation, PII-masked logs, and 63% lower monthly costs.

Onboarding Optimized

Transformed a manual, tribal-knowledge-dependent multi-week participant onboarding process into a validated three-stage Terraform pipeline completing in days.

About Threading Clouds

Threading Clouds is an AWS Partner specializing in cloud consulting, DevOps and platform engineering, reliability and operations, and innovation in advanced technologies including generative AI and blockchain infrastructure. Headquartered in Europe with teams across Europe and the Americas, Threading Clouds empowers organizations to innovate with confidence by designing, implementing, and managing secure, scalable, and cost-efficient cloud infrastructures.

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