



Building a Secure Real-Time Payments Platform for **Faster, Smarter Transactions**





Key Issues

- Fragmented messaging standards across real-time payment schemes
- Limited transaction visibility and traceability
- Increased cybersecurity threats due to continuous data flow
- Inability to handle peak transaction loads efficiently
- Interoperability issues due to lack of global standards
- Complex cross-border payment integration

Solutions

Aspire developed a real-time payments platform that enables secure, high-speed transaction processing between financial institutions using The Clearing House (TCH) network. The solution integrated IBM MQ for robust message queuing on one end and the customer's internal exchange platform on the other, facilitating seamless payment orchestration. Designed with end-to-end visibility, digitally signed financial messages,

About the Customer

The customer is a leading provider of financial technology and payment processing solutions, serving approximately 8,000 community and regional banks and credit unions across the U.S. With years of experience since 1976, the company specializes in transaction processing, business process automation, and digital banking services. Their technology helps financial institutions manage risk, comply with regulations, and enhance customer banking experiences.

Highlights

The customer's digital payments division aimed to address growing market demand for faster, cashless transactions by introducing a real-time payments (RTP) platform. Traditional instruments like cash and checks come with high costs, slow processing, and limited traceability. The goal was to modernize the payments infrastructure by creating a real-time, secure, and transparent transaction flow between financial institutions and core banking systems. Aspire was brought into design and developed a robust platform that would serve as the foundation for real-time digital payments, ensuring speed, scalability, and interoperability.

The Challenges

Real-time payments introduced complexities that traditional systems were not equipped to handle. The lack of standardization in messaging formats made interoperability difficult, particularly when working across diverse financial ecosystems. Security was another critical concern, with real-time systems being more vulnerable to data breaches



and real-time alerts, the platform also supported core functionalities such as sending and receiving payments, requesting money, and issuing refunds, ensuring performance, transparency, and security at scale.

Benefits

- Instant settlement of payments accelerates cash flow for users and institutions.
- Real-time visibility improves transparency and simplifies transaction reconciliation.
- Scalable architecture supports high-volume transaction loads without latency.
- Reduced fraud risk and operational costs enhance trust and efficiency.
- Improved onboarding experience through automated alerts and status tracking.

due to the continuous transaction flow. Furthermore, the system needed to scale dynamically without performance degradation, even during transaction spikes.

Existing infrastructure also lacked deep visibility into transaction flow, limiting the ability to troubleshoot and ensure compliance with service-level agreements. This demanded a highly reliable platform that could provide detailed transaction tracking, system alerts, and real-time performance metrics.

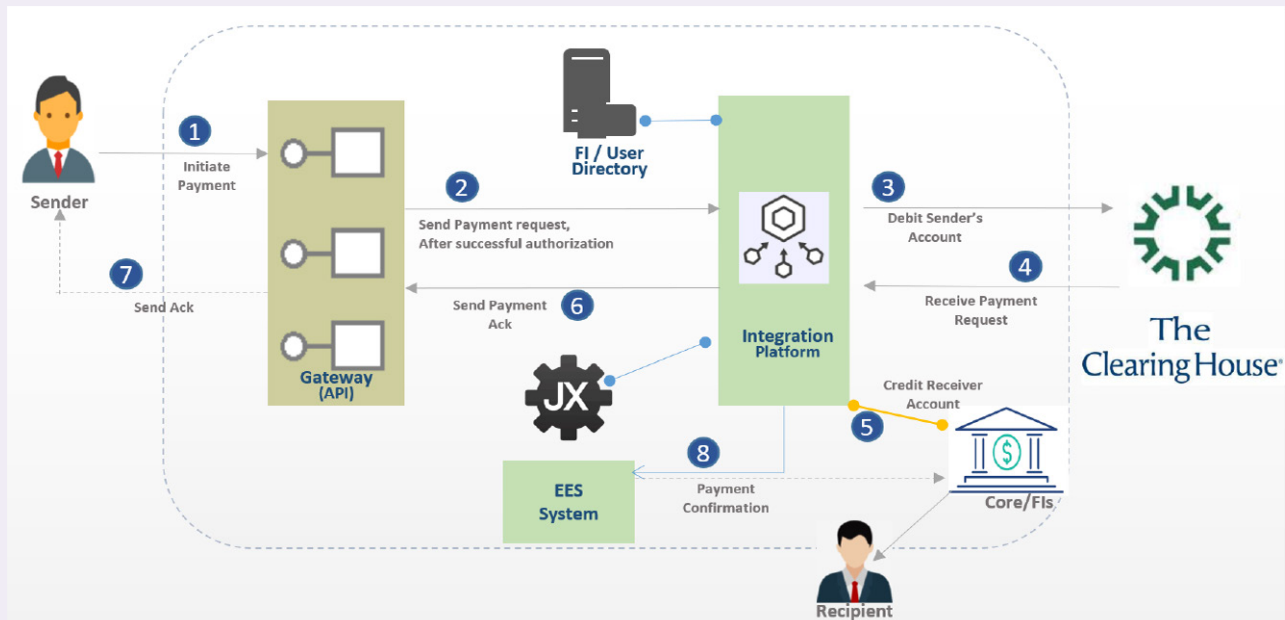
The Solution

Aspire engineered a comprehensive real-time payments solution that integrates seamlessly between financial institutions and the core banking system:

- Developed a robust RTP platform using TCH Network specifications to process real-time transactions securely.
- Integrated with IBM MQ for resilient and high-throughput message queuing.
- Built secure message flows with digitally signed financial messages to ensure data integrity.
- Enabled integration with the customer's exchange platform for seamless payment orchestration.
- Designed a platform with real-time payment visibility to keep users and institutions informed of transaction status.
- Implemented a notification system for onboarding updates and network alerts.
- Supported core services including Send & Receive Money, Request Payments, and Request Refunds.



Architecture Diagram



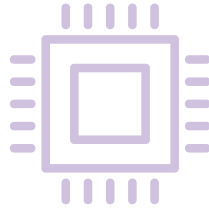
The Results

Aspire's real-time payments platform delivered tangible business value by transforming how transactions were processed and managed:

- Instant payment settlement significantly improved cash flow for both individuals and institutions.
- Enhanced transparency into transaction status eliminated delays and simplified reconciliation.
- Dynamic scalability ensured reliable performance even during peak transaction periods.
- Reduced fraud risk and lower payment costs improved overall process efficiency and service value.
- Streamlined onboarding and proactive alert systems improved operational responsiveness and user experience.



Technology Snapshot



- » **WSO2 Enterprise / Micro Integrator** – For scalable service integration
- » **WSO2 API Manager** – For managing and securing APIs
- » **AURAS (Aspire Unified Reference Architecture Service)** – For monitoring, governance, and reusable components



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