

# Real-Time Payment Processing Platform

## I. SUMMARY

Set applications serving 5,500+ financial institutions across the United States, including community banks, regional banks, and credit unions.

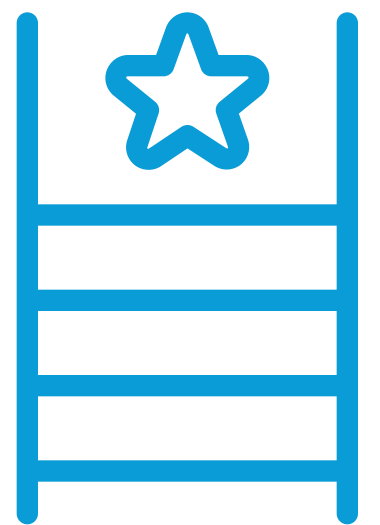


## II. PROBLEM STATEMENT

Financial institutions faced significant hurdles in adopting real-time payments, including regulatory pressure for FedNow participation, rising customer demand for instant 24/7 payments, and competitive threats from fintechs. Integration with legacy core systems, high implementation costs, and the need for robust fraud detection added to the challenge.

## III. TECHNOLOGIES USED

- Frontend: Angular, Prime NG
- Backend: .NET 8, C# 12.0, Entity Framework Core, AWS CDK (C#)
- Database: MYSQL
- AWS Services: AWS Lambda, Amazon ECS (Fargate), Amazon SQS, Amazon S3, Amazon API Gateway, AWS Step Functions
- Integration & Security: IBM MQ, AWS Secrets Manager, Amazon VPC
- DevOps & Deployment: Azure DevOps, Docker, Git



## IV. OUR APPROACH

- Cloud-Native Architecture: Built event-driven microservices using AWS serverless technologies with Infrastructure as Code for consistent multi-environment deployments.
- Message Processing: Ensured ISO 20022 compliance with automated message routing, validation, and exception handling.
- Integration Methodology: Delivered API-first connectivity, comprehensive testing frameworks, and phased deployments to minimize disruption.

## V. KEY FEATURES

- Real-Time Payments: Sub-second credit transfers, RFP (Request for Payment), 24/7 availability with 99.9% uptime.
- Advanced Message Handling: ISO 20022 transformation, digital signatures, automated exception handling, and compliance reporting.
- Business Intelligence: Real-time dashboards, daily settlement reports, billing, and performance monitoring.

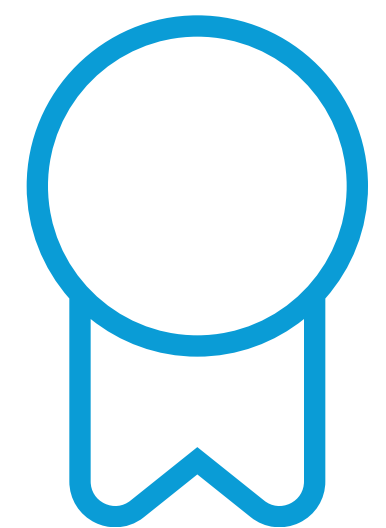


## VI. CHALLENGES FACED

- Complex ISO 20022 message mapping and high-volume transaction handling.
- Seamless integration with diverse banking systems.
- Balancing zero downtime deployments with evolving compliance mandates.
- Training and onboarding staff across 200+ institutions.

## VII. OUTCOME/RESULT

- The platform positioned the client as a pioneer in real-time payments with industry-leading adoption.
- Market Success: 200+ FedNow implementations, 70% market share, 5,500+ institutions onboarded.
- Financial Impact: 18–24 month ROI, \$2.5M fee income per regional bank in year one, 25–40% cost savings, and 30% increase in new accounts.
- Technical Achievements: 99.9% uptime, sub-second transactions, zero security incidents, and 95% customer adoption within six months.



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