

**CASE STUDY**

# Enhancing a Healthcare Payment Solution Application

**CUSTOMER**

The customer provides business payment solutions backed by a proprietary, patented payment system to healthcare payers of all sizes. With 25 years of experience, it is one of the leading players in the US healthcare payment space, processing \$60 billion in claims annually.

**CONTEXT**

The customer had a desktop app used by Third-Party Administrators to view claims process, manage and process claim payments, correct data on submitted claims for re-processing, and process on-demand direct payments.

**THE CHALLENGE**

The client's app, developed utilizing outdated legacy technology, impacted its alignment with current business standards. The customer had a client onboarding process, which included custom-built ETL (Extract, Transform, and Load) and a desktop application. The legacy ETL process did not support all kinds of claim files – rendering it not easily maintainable or scalable. The client's desktop app, designed for end customers, posed operational challenges due to its reliance on legacy technology. Users had to log in to a specific environment, introducing multiple points of failure, resulting in communication difficulties and irregular app use. The legacy system's limitations resulted in only 50+ customers being able to access the app. These led to high costs and onboarding time.

The existing setup led to deadlocks and security issues when multiple users logged in. New features couldn't be customized for specific user groups. The legacy tech lacked support for XML file layouts. Finally, the use of Windows 2003, approaching the end of support, caused security issues and restrictions. A move from legacy technology to client-server architecture was thus necessitated.



## THE SOLUTION

We initiated a proof of concept, transitioning the desktop app from Microsoft Visual Basics (VB) to a meticulously selected Technology Stack aligned with industry best practices. The front end transitioned to Angular, adopting a service-oriented architecture while retaining the existing database structure and business logic. The process involved optimization, trimming unnecessary functionalities, and modularizing the application. The team introduced the ability for Business Analysts to configure XML data. This expansion enabled support for over 180 adjudication file layouts. We also facilitated co-branding opportunities for Third-Party Administrators (TPA).

We resolved licensing-related security issues, fortified the application with top-tier security measures, introduced multi-factor authentication, and ensured compliance with industry standards like OWASP's Top 10 security checklist, SSL, and SOC 2. Upgrading to the latest software versions eliminated security vulnerabilities from end-of-life software versions. We adopted human-centric design principles to redesign the application for enhanced intuitiveness and user-friendliness. The team integrated with third-party applications through a service-oriented architecture and standardized APIs to streamline data exchange, reducing errors and manual interventions. Finally, we conducted performance testing, identified bottlenecks, and implemented performance tuning.



## THE IMPACT

The system was re-engineered within six months with an effort of 50 man-months. The existing customers were migrated to the new system within 60 days. New features could be seamlessly added without impacting users. TPAs now had the capability to add new file formats without extensive development or testing.

The performance optimization strategies led to a 50% improvement in runtime. The re-engineered system was secure, HIPAA and CORE III compliant, and could handle 8X more customers. Hardware, server, and support costs were substantially reduced, saving an estimated \$200,000 annually, allowing the solution to break even within 9 months. Onboarding time for end users improved significantly from 3-4 weeks to a mere 2 hours.

## ABOUT HEALTHASYST

HealthAsyst powers the healthcare industry through product engineering, and digital transformation services. Over the last 24+ years, HealthAsyst has partnered with premiere US healthcare organizations, ISVs, payers, providers, and more to solve healthcare challenges by leveraging technology. With our deep expertise in the healthcare domain, regulatory frameworks, product engineering best practices and a product mindset, we take ownership of solving technology challenges for our customers so that they may focus on their core business.

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