

**+750%
increase**

How effective communication and consistency led to increase in a contract capacity

A health technology company was experiencing scaling issues, which hindered them from onboarding larger healthcare providers, leaving millions of dollars on the table.

ThorTech, a cloud architecture consulting firm and AWS Consulting Partner, was brought in to help the healthcare contract management company improve its system's performance and scalability.

Shortly after the engagement, the company was acquired by a larger healthcare entity and continued to experience performance and scaling challenges. ThorTech stepped into a solutions architect and development manager role, helping to keep the balance between the product team's goals and the engineering team's perspective. After addressing performance issues and scaling challenges, the Customer could now accommodate 150,000 contracts, up from their initial capacity of 20,000 to 30,000. However, the solution still needed to be improved to accommodate larger clients. ThorTech was chosen due to its agility, ability to adapt and manage stakeholders, and experience with AWS technologies.

The Customer, a leader in enterprise healthcare operations software and services leader, has been committed to improving healthcare operations through cloud-based solutions for over 30 years. Its deployments in 9 of 10 U.S. hospitals have resulted in better outcomes.

Challenge

After being acquired by a larger healthcare entity, they sought Senior Solutions Architects and Solutions Engineers with expertise in AWS and the Clojure programming languages. Although their existing team of 19 to 20 Clojure engineers was skilled, they needed help understanding how to build large systems that could scale and that they could innovate quickly on. The Customer faced performance problems and required guidance in different areas to confirm and solve the issues.

ThorTech supplemented their team, acting as development managers, and providing expertise in AWS technologies, specifically AWS Lambda, AWS OpenSearch, AWS ElastiCache/Redis (and others)



About Thortech

ThorTech Solutions, a New York-based software engineering and cloud consulting firm with over 22 years of experience, provides services such as application architecture, DevOps infrastructure, managed services, and staffing to help accelerate business initiatives.

Our team focuses on putting ourselves in our customers' shoes, delivering business objectives by leveraging the best technologies, and optimizing costs along the way.

To learn more, visit thortech-solutions.com or email us at sales@thortech-solutions.com



ThorTech led the team to help balance what the product team wanted to execute and what was feasible from an engineering and tech capacity perspective. Once the acquisition was fully rolled out, ThorTech focused on making the application scale, as the Customer had clients they couldn't sell to because the product couldn't accommodate their needs. The challenge was to find a solution to scale the product to sell to larger clients.

Solution

How did ThorTech solve the scalability challenge and improve performance?

ThorTech tackled the scalability challenge by putting communication at the forefront. They communicated their plans with the customer monthly and provided checkpoints until they hit the milestones. This allowed them to show proof of concept that could be used to keep improving and making things better.

Once ThorTech outlined what they delivered, they recommended things the customer could deploy to give their customers a better experience and keep improving the product. The customer, all the way up to the C-level, was impressed with all the information they received from ThorTech, and they appreciated being able to see the updates and progress every month.

ThorTech communicated how systems performed before they had metrics and how they performed after, opening the floor for discussion. They had a lead architect to ensure consistency with the rest of the products across the brand. The lead architect helped with the initial design, and ThorTech kept the customer informed as they kept improving it.

With the way ThorTech handled the situation, the customer could initially scale 20,000 to 30,000 contracts, but with the solutions they worked on together, they could scale to 150,000 contracts. ThorTech is working on putting in place a solution to make it possible for the customer to sell to millions.

The initial product design leveraged many core AWS technologies. ThorTech brought in ElastiCache using Redis and the use of AWS Lambda. They brought in Lambda and exposed it to other parts of the app.

The customer's technology stack uses ECS Fargate, AWS Step Functions, and AWS text track. The app uses Dynamo, EC2 instances, and API gateways. It also uses Datomic Cloud, which is hosted on AWS infrastructure.

ThorTech extensively used CloudWatch logs and had a Datadog integration sourced from CloudWatch logs. CloudWatch metrics and dashboards were used to help determine the system's health. AWS Event Bridge was used to drive the process to onboard clients requiring OCR functionality via AWS TextTract.

ThorTech understood the customer's technology, ClojureScript on a client, Clojure on the middle tier, and Datomic on the backend. Their ability to understand the full-stack and their experience with large-scale designs helped solve the customer's challenge.

Why did the Customer choose to engage ThorTech?

ThorTech's agility, and ability to adapt and manage stakeholders, along with our experience with AWS technologies and Clojure made us the ideal partner for the health-tech company. Our ability to step in our Customers' shoes, take on leadership roles, and find solutions to challenging problems helped them build a better product and overall customer experience.

ThorTech could pivot and position itself to provide value in whatever landscape it was in during the transition. They were also impressed that we would provide evidence of "data-driven decision making", having data to back up our pivots and architectural direction.

The Customer chose to engage ThorTech due to their familiarity with using AWS technologies and AWS-specific technologies. ThorTech had experience using these technologies on previous large-scale projects, where they had used it for high throughput systems, which was an advantage. They had also solved a similar challenge before, and their election experience proved their case. ThorTech also had the management perspective and the solution for the customer's scalability challenge. They were qualified to take on the challenge due to their experience with large-scale designs.

Results and Outcome

ThorTech was able to help scale an in-app reporting tool to 150,000 count workflows. They improved the application Vendor Library feature performance by 1100% and the Provider Library feature performance by 1500%. They also increased the performance of that page by 52%. The overall performance improvement across the entire web application was ~280%.