3Cloud

CLIENT SPOTLIGHT
Healthcare Services

Healthcare organization saves $1M in operational costs with Azure-native application

CHALLENGE

Starting as a small operation over 50 years ago, this healthcare organization has grown significantly in size, scope and capability. They have not only grown across the U.S. but have built a community to help improve healthcare and provide comfort and healing to the people they serve.

For the past 15 years, the organization has heavily relied on a third-party solution to process 40% (2022: $3B) of its annual revenues in the healthcare sector. This system, crucial to the company's operations, has presented substantial business risks and hurdles. The foremost concern lies in the 'Interruption of Service' risk, as any disruptions to the payor system could result in a significant loss of the $3B revenue stream. The system's growing fragility has heightened the severity and frequency of outages, leading to revenue leakage, payment delays and a negative impact on physician experience. Moreover, the system has incurred escalating maintenance costs due to its inflexible architecture and codebase, which necessitates a prolonged development cycle and substantial financial investment for each annual reimbursement submission. Furthermore, the system's limited integration capabilities with other healthcare systems have hindered this client's ability to streamline processes, resulting in manual work, errors and additional costs. Addressing these challenges has become imperative for them to ensure the stability, efficiency and financial viability of its healthcare operations.

⊙ SCROLL TO VIEW THE SOLUTION & RESULTS

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SOLUTION

3Cloud utilized our healthcare expertise to guide the client in transforming its payor system. We delivered a vision and roadmap for a reliable, scalable, secure and cost-effective solution, beating AWS by delivering their payor system as a serverless cloud-native application on Azure.

Through curated workshops and leveraging 3Cloud's App Innovation Framework, FHIR IP and deployment frameworks, the healthcare organization's goals and objectives were identified, current system issues were assessed and metrics for success were set. The target architecture for the new Azure-native system combined cloud-native and Microsoft technologies, utilizing Azure DevOps, Azure Functions, App Services, Azure Kubernetes Service, Service Bus, CosmosDB, Okta for authentication, Redis for caching and Blazor for the front-end. The solution also incorporated Azure's FHIR-based Healthcare Services APIs for regulatory compliance.

The next phase was developing and deploying the new payor system while skilling the client. 3Cloud employed Microsoft CAF based infrastructure for dev, test and production environments built using Terraform and automated versioned Infrastructure-as-Code scripts in Azure DevOps. This approach enabled development and QA staff to easily build test environments, enabling the teams to implement changes more rapidly. Managed out of Azure DevOps, the main development involved designing and building the architecture, codebase, database schemas and security protocols. Finally, 3Cloud set up monitoring tools to ensure the system performed and met the required SLAs, involving monitoring tools with App Insights and error handling to detect failures while establishing processes for remediation.

↓ SCROLL TO VIEW THE RESULTS

RESULTS

Following the successful development and deployment of the new Azure cloud-native application, the client achieved significant operational cost reductions, heightened market agility and improved overall availability and resilience. Additionally, key benefits for the healthcare organization encompassed a reduction in system latency and enhanced scalability, processing 5M messages per day compared to the previous 2M. Annual operational costs were slashed by $1M through the discontinuation of the previously used third-party solution and related services. The new payor system also bolstered security by adopting a zero-trust architecture, eliminating the need to pass patient and payor information between external systems. Furthermore, the organization's flexibility increased with improved system integration into other healthcare systems through the adoption of a FHIR-based payor system, fostering automation and reducing errors. With an established modern cloud platform architecture and Azure-based development processes, the client is now well-equipped to support its enterprise applications by a skilled staff familiar with the technology while continuing to provide the best healthcare possible to their patients.

CLIENT PROFILE

Healthcare services company operating 50 general hospitals and related ancillary health care businesses in 12 states.
Annual Revenue: $10B+
Employees: 131,000
Innovation Focus: App Innovation