



Gemini Health: Optimizing Prescription Drug Costs with Cloud Modernization

Case Study



partner
network

SaaS Architecture
Competency

Transforming Healthcare Benefits Management

In an era of soaring healthcare costs, Gemini Health, a top benefits management firm, embraced change. Their mission: redefine drug cost transparency. They modernized their application for agility in healthcare.



INDUSTRY

Healthcare, Pharma, Technology

SOLUTION

Harness cloud technology to reinvigorate their monolithic app, evolving it into a versatile microservices architecture that drives business growth and fosters healthcare transparency.

CLIENT

Gemini Health



CloudGeometry

Gemini Health

In an era where healthcare costs are skyrocketing, Gemini Health, a prominent healthcare benefits management organization, sought to make a difference. They envisioned a world where transparency in prescription drug costs was the norm, not the exception. With a monolithic app that was becoming increasingly cumbersome, they needed a technological transformation to bring to life their vision for better keeping up with changes in a rapidly changing competitive marketplace.

The Challenge

The healthcare landscape is rife with regulatory and economic complexities, on top of the already complex challenges of delivering quality medical outcomes. Gemini Health wanted to simplify one aspect: ensuring patients, payers, pharmacists, and prescribers had clear insights into prescription drug costs. Choosing the right prescription for a patient is often not straightforward. Prescribed medications are determined not just by medical factors such as what the patient needs and what co-morbidities or other prescriptions may exclude certain combinations, but also practical matters such as insurance copays and employers' policy payments to cover their employees. The seemingly simple decision of pre-screening and purchasing medication required the evaluation of dozens of factors, each defined by different entities. These factors are also subject to change at any time, even during the period between prescription and fulfillment.

The existing system was at the Minimum Viable Product (MVP) stage, developed with the primary objective of validating the business concept and acquiring initial clients. It was a monolithic application built on Elixir and hosted in an on-premises data center. After successfully achieving these initial goals, Gemini Health set its sights on aggressive expansion. This growth strategy necessitated integrations with various stakeholders in the healthcare ecosystem, such as pharmacies, insurance companies, and hospitals.

Cloud-Powered Agility

Gemini Health transitioned from a monolithic application to a **cloud-based microservices** architecture, offering unparalleled agility in responding to evolving healthcare demands. This architecture ensures scalability, data isolation, and compliance with industry standards.

Real-Time Prescription Insights

The All-Seeing-Eye system empowers doctors and patients with real-time prescription options. It analyzes patient Electronic Health Records (EHR) & insurance data to suggest approved medications, pharmacies, and cost-effective choices, enhancing healthcare decision-making.

Seamless Client Onboarding

Gemini Health's SaaS platform offers automated tenant rollout, enabling quick onboarding of new clients and partners. Each tenant enjoys customization and administration capabilities. The platform also provides comprehensive data views, ensuring efficient management of doctor and patient registrations & records.

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The Challenge

To meet these demands, it became evident that a Software-as-a-Service (SaaS) platform was required. This platform needed the capability for rapid onboarding of new tenants, data segregation to comply with industry standards related to Electronic Health Records (EHR) and customer privacy, and varying compliance requirements. Additionally, tenants needed to be managed separately by regional managers to meet diverse compliance standards. It was also evident that new clients would have unique needs, requiring feature customization and agility. The ability of the development team to rapidly release new features would be crucial for business success. As such, a solution needed to be found to enable multiple developers or even multiple development teams to work concurrently on the development of new features.

The Solution

CloudGeometry offered a comprehensive service that included a thorough assessment of the current application, cloud migration and upgrade to native cloud technologies, as well as a phased app modernization approach to move from monolith application to microservices-based SaaS architecture that can power the growing business.

One challenge we encountered during the transition was the need for the business to continue relying on the existing system to sustain growth. To address this, we migrated the current application to AWS EC2 to support existing clients, while simultaneously creating a multi-stage plan for developing the desired SaaS platform. As AWS Advanced Consulting Partners, we have a wealth of expertise gained from numerous practical application modernization projects. We leveraged our CG Cloud Migration Solution to execute a Lift & Shift migration of the existing system to AWS.

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The Solution

In parallel, our Solution Architecture group conducted a comprehensive assessment of the current application services, key use cases, and future business requirements. Utilizing the Well-Architected Framework and SaaS Lens, we designed a new SaaS system that meets all B2B SaaS criteria, such as separate tenant management and data isolation. We mapped the existing application services to a new microservices-based architecture, ensuring compliance with all industry standards.

With the new architecture in place, our development team began the process of re-coding, incrementally shifting functions from the existing Elixir-based monolith to new .NET-based microservices. We employed AWS Lambda and a serverless approach to achieve the scalability and portability required for the new microservices. Throughout this application modernization process, we also transitioned most system components to AWS-managed services, switching from Oracle to Aurora and introducing a RedShift-based Data Lake to support analytics and data science initiatives.

The development process has also been updated with the introduction of a Platform Engineering approach. This new approach is based on our comprehensive **CGDevX** solution, which itself is built on an integrated collection of popular open-source tools. These tools cover every aspect of developing, building, releasing, and operating modern cloud systems.

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The Benefits

Gemini Health's clients, which include doctors and patients, received access to the All-Seeing-Eye system and Data Driven Decision Making. This system provides real-time prescription options for doctors, featuring medications that have already been approved by the patient's insurance. It also offers recommendations based on the patient's Electronic Health Records (EHR). Meanwhile, patients can see recommendations for pharmacies where they can purchase their medication, as well as price comparisons and suggestions for both generic and branded products.

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The Benefits

Gemini Health received:

- **A stable SaaS platform that facilitates quick onboarding of new clients** and partners, thanks to automated tenant rollout. It also provides the capability for per-tenant customization and administration. For company administrators, the platform offers a comprehensive view of all tenant data, as well as doctor and patient registrations and records.
- AWS and Kubernetes based cloud-native system, enabling both scalability and stability with a guaranteed 99.99% uptime. Automated cloud resource allocation also results in **cost savings** for the infrastructure compared to the previous on-premises solution.
- The microservices architecture, coupled with a **Platform Engineering**-based approach to development operations, allows for the simultaneous development of new features by multiple teams. This is facilitated by automated build, release, and testing processes. Together, these elements enable the company to achieve **true feature agility**, meeting client demands while adapting to ever-changing business and regulatory requirements.
- With bi-weekly releases of stable platform versions and consistent runbooks, production operations can be handled by Site Reliability Engineering (SRE) teams and managed cloud service providers without the need for developer supervision. Additionally, our robust log processing system and analytical tools allow for swift reviews of any transaction or decision made by clients and the system.

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Technology Solutions & Services

to build, optimize and run your cloud software and operations.



cloudGeometry

TECHNOLOGY SOLUTIONS

APPLICATION MODERNIZATION

Transform Legacy Systems for Future-Ready Innovation

CLOUD COST MANAGEMENT

Optimize Cloud Spending for Maximum ROI and Efficiency

AI & DATA

Achieve breakthrough automation and analytic insights via cutting-edge data strategies

SECURITY AND COMPLIANCE

Reinforce your cloud infra, workload, operations, and development end-to-end

FOUNDATION SERVICES

CLOUD INFRA & OPS

Robust Infrastructure Solutions for Seamless Operations

- DevOps as a Service
- Managed Cloud Operations
- Cloud Spend Optimization
- Resilience, Continuity & Backup
- AWS Well-Architected

MODERNIZATION & MIGRATION

Smooth Transitions to Modern Architectures with Minimal Disruption

- Application Modernization
- Kubernetes Adoption
- AWS Database Migration
- Data Engineering Operations
- Data Integration
- Data Migration
- Cloud Migration & Adoption

ADVANCED SERVICES

CLOUD-NATIVE DEVELOPMENT

Build Scalable, Resilient Applications with Cloud-Native Technologies

- CI/CD
- Multi- Platform App Design & Development
- Cloud-Ready Teams
- Enterprise SaaS Modernization
- Multi-Tenancy SaaS
- B2B Customer Success Engineering

CLOUD-NATIVE OPERATIONS

Streamline Operations with Advanced Cloud-Native Practices

- Platform Engineering
- Workload Management
- Monitoring & Observability
- Infrastructure Management

AI/ML & DATA SERVICES

AI/ML & DATA

Leverage Advanced Analytics and Machine Learning to achieve exponential acceleration in the ROI of your data assets

- AI/ML Engineering for Data Analytics
- Generative AI
- Traditional ML for Data Analytics
- AI/ML Development and and Data Science
- Data Engineering for MLOps

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CloudGeometry delivers expert technical services, helping our clients unlock the full potential of cloud-native open source tooling and commercial platform technologies.

With roots in Silicon Valley, we've seen firsthand what works (and what doesn't). Count on CloudGeometry to accelerate application modernization, Kubernetes adoption, developer enablement, secure multi-tenancy, AI/MLOps, DevOps automation and more.

- As **AWS Advanced Consulting** partners, our certified solution architects and platform engineers help address the range of challenges facing enterprise innovators and venture funded startups alike.
- The **Cloud Native Computing Foundation** has accredited us as a **Kubernetes Certified Service Provider**.
- We serve as charter contributors to the **Linux Foundation Data & AI Commons** (LF Data & AI), supporting a diverse, sustainable ecosystem for open source data and AI technologies.

Over the last decade, we've built and deployed hundreds of big, fast full-stack apps with well-engineered cloud infrastructure across industries: Financial Services, Industrial Automation, Healthcare, AdTech, Consumer-grade Mobile, smart devices, and more.

From enterprise upgrades to data engineering to cloud-native scale-out, CloudGeometry helps you plot the shortest path across all dimensions of modern cloud software engineering.

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CLOUD NATIVE
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