Microservices Grow Agility for Experience-Driven Healthcare Technology Provider

Case Study
Microservices
Grow Agility

Flux7
an NTT DATA Company

AWS Premier Consulting Partner - DevOps | Migration | Security

Profile

This tech-driven healthcare company has a mission to connect doctors and patients to drive better health and improve the overall healthcare experience. Helping to reshape the future of healthcare, this organization works to empower patients, and provide doctors and other system providers with services that tirelessly advance health technology for improvements across the healthcare ecosystem.

Benefits

- Grow Innovation and development agility for greater competitive advantage
- Maintain HIPAA compliance
- Set and achieve strict measures to ensure the security of patient health information

Challenge

This successful organization began by building its solution quickly to meet new and quickly growing demand. Rapid development meant that new features and functionality were created without consideration for the monolith that the team was building. Over the long term, code became increasingly fragile, due to many interdependencies. Afraid that this would lead to instability and frequent breaks, the team began looking for an alternate approach.

Further, as an always-on offering to patients and doctors, this healthcare provider needed to balance its needs for high availability, compliance, security and increased agility. Lacking deep in-house cloud skills, the organization set out to find a partner that would help it create a HIPAA compliant and highly available cloud infrastructure with automated provisioning.

Solution

In assessing the business's needs, Flux7 experts recommended that this healthcare technology service provider approach its evolution with a microservices architecture based in Amazon Web Services (AWS). The cloud-based microservices architecture would allow the IT team to simultaneously achieve its goals of high availability and security while moving it away from its monolith setup to create greater agility.

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Focused on specific applications that they wanted to evolve, Flux7 and the client got to work, moving services one at a time to the new AWS-based microservices architecture. As a start-up in a highly competitive market space, this healthcare provider especially valued nimbleness in execution, which Flux7 provided through sprints and a keen focus on automation.

Automation:
As DevOps experts, Flux7 consultants knew that automating day-to-day processes would be key to saving critical development time. By automating provisioning through CloudFormation templates and automating business as usual change request approvals for developer needs such as new developer environments, Flux7 consultants were able to create a worry-free setup that enhances, rather than penalizes, innovation.

Enhancing Innovation:
The new microservices environment also enhanced innovation through its flexible and agile nature, enabling innovation without the fear of breaking functionality. Specifically, using Docker containers, Flux7 was able to provide this healthcare organization with a homogeneous deployment framework ideal for the variation in technology stacks across its services. This approach helped streamline infrastructure needs, making it easier to port services across environments. In addition, scripted configurations, templates and alerts allowed innovation to proceed faster, like brakes on a racecar.

Security and HIPAA Compliance:
Like guardrails on a racetrack, security and compliance best practices were built into this organization's cloud infrastructure to ensure effective risk management and that it met all applicable regulatory standards. Best InfoSec practices to secure patient's personal health information like encryption at rest and in transit, logging and disaster recovery were used.

Flux7's recommended microservices infrastructure added risk mitigation as well with greater system resiliency from the ability to rollback effortlessly. In addition, unlike monolithic applications, microservices continue to run should a failure appear elsewhere in the system.

Knowledge Transfer:
The last component of the project included a complete knowledge transfer so that the firm's technology teams would be able to effectively and efficiently manage and extend the infrastructure moving forward. As a successful startup competing with new, more nimble market entrants, having the ability to hit the ground running was critical to this firm and Flux7 delivered, handing off the baton to a successful implementation. The team is now enabled and has already built upon what Flux7 delivered to expand their use of microservices, DevOps, Docker containers, and AWS.

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Benefits

- Microservices architecture enhances innovation
- Automation speeds delivery pipelines
- Maintain security of patient health data

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This healthcare firm gained immediate benefits from evolving its infrastructure through AWS, DevOps and container-based microservices. With a focus on doing the right thing from day one, the Flux7 team in conjunction with the firm's development team built an infrastructure that provides security, meets regulatory compliance, and delivers greater value to developers and customers alike. Working hand-in-hand with Flux7 throughout the process, knowledge transfer was a seamless process, enabling the firm to quickly begin managing and extending the new microservices architecture for improved agility and greater innovation.

Technical Details: AWS Services: EC2, Elastic Load Balancer, CodeDeploy, CloudWatch, CloudFormation, CloudTrail, S3, SQS, DynamoDB, EC2 Container Registry, AWS VPC, AWS Config, EC2 Container Service, Docker, Ansible

About Flux7

Flux7, an NTT DATA Company, is an IT services firm that helps enterprises reduce the complexities of a new or evolving cloud automation strategy. Agile and DevOps-native, Flux7's robust services portfolio prioritizes a fast path to ROI that meets the immediate needs of technical and innovation teams focused on transformation while forging a secure and stable pathway for security and operational excellence. Learn how Flux7 helps businesses bring solutions to market faster at https://www.flux7.com