Flux7

Case Study

Infrastructure Assessment Sets the Stage for Greater Automation, Scalability and Efficiency

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SaaS Sales Application Provider Set to Increase Innovation with Microservices Architecture

Profile

This company has deep data science expertise which it applies to sales organizations through its prescriptive sales applications. Used for smart selling, this company's applications help sales teams overcome decision complexity, providing the best answers to a wide variety of sales decisions -- from pricing to strategic front-line decisions. It prides itself on driving financial growth for its clients, dramatically improving execution and P&L results, often within a matter of weeks.

Challenge

With a flexible software-as-a-service (SaaS) model, this company was interested in working with expert AWS consultants who could validate its AWS roadmap. Specifically, it had a monolithic application it was hosting in AWS, but knew it wasn't taking full advantage of the benefits AWS provides. As a result, it was looking for an AWS DevOps consulting group that could assess and fine-tune its AWS operations and formulate a DevOps plan to further automate its Development and Operations in AWS. The motivating factor for these changes was to ensure cost efficiencies while maximizing system scalability.

Solution

This particular organization was moving from what it called a SaaS 1.0 to SaaS 2.0 model, and as part of the process, started moving to AWS. However, wanting to fully leverage the benefits of AWS, Flux7 AWS experts were brought in to assess the company's strategy and help it build a blueprint it could execute on itself for future success.

Business Needs

- Automate and streamline development and operations
- Increase innovation while speeding time to market
- Maximize cost efficiencies in AWS

Solution

- Flux7 Assess
- AWS-based microservices architecture
- DevOps best practices

Benefits

- Architectural blueprint designed for greater innovation and scalability
- Best practice recommendations to grow efficiency at optimized cost
- Knowledge transfer to enable the team to execute successfully

Technical Details

- AWS Services: AWS SQS, SWF, EMR, CloudWatch, S3, CloudTrail, AWS Config, Dynamo DB, Elastic Load Balancing, EC2 Container Registry, VPC

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Flux7's AWS experts dove in, starting with an infrastructure assessment of the firm's product roadmap and business goals. It next mapped these goals to an architectural approach, with AWS security, performance, and automation best-practices built in. Interested in maximizing economies of scale, the Flux7 team recommended a microservices architecture with levels of AWS automation that would directly address the organization's need to achieve cost efficiency and scalability.

Knowledge Transfer During Infrastructure Assessment

The company was already thinking about microservices as a foundational technology and looked forward to breaking its monolithic application into smaller services. Flux7 educated the team through its assessment and design as to the proper use of microservices, S3, security, and more to ensure they are able to build, manage and extend the architecture themselves. The second actionable output of the Flux7 assessment was to create a contextual roadmap view of the AWS microservices migration, building in DevOps best practices and continuous integration/ continuous delivery processes.

Flux7 consultants recommended the team used AWS Lambda to develop code that executes in response to events. For example, a low resource event could trigger Lambda to spin up a new instance of the component and apply load balancing. In addition to the benefits of automation, Lambda would help this company save money based on Lambda's per execution cost model.

Development Automation and Control

As a data sciences company, the firm has two engineering groups, Production Engineering that is responsible for product development and a Solutions Science team that aggregates and evaluates customer data. Important here is the framework that receives the input data and puts it in a workflow where science is applied and the data output is sent to clients.

Flux7's infrastructure assessment recommended that the team move to Docker-based microservices using ECS for orchestration and AWS ALB as it would present these two groups with a much needed opportunity to gain greater control over their individual responsibilities. With smaller teams assigned to individual services, a series of approvals would no longer be needed as incremental changes would no longer have significant potential affects to a monolithic application. Featuring easy roll-back and service autonomy, using microservices means that engineers have the power to try new things, fail fast and as a result, deliver more quickly. In addition, Flux7's recommended architecture included scripted configurations, templates and alerts that would allow innovation to proceed faster.

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Operational Efficiency

This firm has an existing team of engineers that is called a DevOps team but functions primarily as an Operations team. Responsible for managing end to end infrastructure and code deployments, they spend 80% of their time handling manual operations work. As DevOps experts, Flux7 consultants knew that automating day-to-day processes would be key to saving critical operations time.

As a result, Flux7 built DevOps best practices into its architectural approach, including CI/CD. Specifically, Flux7 assessed the need for automated tools and processes for much of the DevOps team's current workload, which would free up their time for more strategic work. With Flux7's guidance, this organization was well-positioned to leverage automation within a new microservices infrastructure to automate the build, integration, and testing of code under development to implement a CI/CD pipeline.

Benefits

With a full assessment of its environment mapped to business goals and technology roadmap, this firm has a blueprint in hand for a new microservice infrastructure. With it, the organization will gain rapid AWS provisioning and reduced wait times for IT when standing up its needed environments. Combined with CI/CD, this will result in reduced costs and competitive advantage through a much faster time to market.

Flux7's skilled DevOps consulting team recommended best-practices, areas for process automation and optimization that will set this firm on the right foot to achieving greater cost efficiency, security and effectiveness. Once implemented, the new microservices environment will be able to scale individual services to meet demand, no longer needing to scale an entire monolithic application to meet demand in a single area.

Last, with DevOps principles and best practices built into the new architecture, the team will be able to deliver faster to customers. Engineers will be able to work on the 'latest and greatest,' in the process delivering high-quality, innovative features to a discerning customer base.

LEARN MORE ABOUT FLUX7

As DevOps and AWS experts, Flux7 offers a suite of solutions that help organizations design, build, own and manage IT modernization projects. Focused on architecting and optimizing their clients' AWS infrastructure and training internal IT teams to manage their own infrastructure, Flux7 solutions are rooted in DevOps best practices. Flux7 has delivered hundreds of agile, right-sized projects to satisfied customers across industries, creating a well-architected core from which these business can own and expand their IT modernization.