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3M Health Information Systems Provisions Development Pipelines in Minutes Using AWS Service Catalog

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—**James Martin**
Manager of Automation Engineering, 3M Health Information Systems

About 3M HIS

3M Health Information Systems (HIS), a division of the global science company 3M, helps providers, payers, and government agencies anticipate and navigate the changing healthcare landscape. 3M HIS provides strategic services and solutions for healthcare performance measurement, management, and analysis that help its more than 5,000 clients reduce costs, improve performance, and raise the quality of care by shifting from volume-based to value-based healthcare. 3M HIS software focuses on innovative computer-assisted coding, clinical documentation improvement, performance monitoring, outcomes reporting, and terminology management.

The Challenge

Several years ago, 3M HIS decided to decrease its IT operational overhead so it could focus more intently on its core business--healthcare analytics.

Services Used:

- AWS Service Catalog

- Amazon CloudFormation

- AWS CodePipeline

- AWS Identity and Access Management

- AWS Lambda

Benefits Realized:

- Provisioning time cut from days to 10 minutes

- AWS CloudFormation templates create consistent, compliant pipelines

- Faster provisioning speeds customer feedback loops and time to market

To this end, the company transitioned applications from its many on-premises IT centers and collocated environments into the Amazon Web Services (AWS) Cloud.

Following this transition, 3M HIS transformed its application-lifecycle management from a traditional waterfall approach to an agile methodology, with the goal of enabling continuous integration and continuous delivery (CI/CD). "We started reworking everything to eliminate barriers to innovation, so we could help our researchers, scientists, and developers build and deploy new applications even faster and bring the most value possible to our customers," says James Martin, manager of automation engineering at 3M HIS. But even as the company's initial steps toward CI/CD showed promise, there were new challenges to overcome.

"Infrastructure was being provisioned and software was being deployed by a central operations team," says Martin. "It was largely a human-involved process that introduced risk and was prone to delays because of operational backlog. And, of course, if errors were introduced, debugging them would eat up even more time. We wanted to speed this process up so we could move closer to autonomy for our product teams, but first, we had to ensure we could maintain good governance and controls at all times."

3M HIS needed a solution that could help it eliminate the bottleneck created by manual provisioning of development pipelines while adhering to crucial governance and control requirements.

Why Amazon Web Services

For assistance with this project, 3M HIS turned to an AWS Partner Network (APN) member designated as a Premier Consulting Partner and an AWS Public Sector Partner. The company 3M HIS selected also holds AWS Financial Services and DevOps competencies, and its employees have more than 100 AWS certifications. "By taking advantage of APN, we were able to find a company that specializes in and has a strong track record helping its customers with DevOps transformation and CI/CD on AWS," says Martin.

The project team used AWS Service Catalog and AWS CloudFormation templates to improve the autonomy of 3M HIS teams using the AWS CodePipeline and Jenkins-based CI/CD platform. Using AWS Service Catalog, 3M HIS creates, manages, and governs AWS CloudFormation templates that provision development pipelines in just a few clicks. These pipelines are preconfigured for specific teams and purposes, in compliance with the organization's information security policies. 3M HIS protects against unauthorized application changes by using AWS Identity and Access Management (IAM) to assign team-specific roles with the fewest privileges necessary for each team to do its work.

In the future, 3M HIS will add AWS Lambda, a function-based serverless compute product that runs code in response to events. "We're working toward a fully automated, self-service scenario in which a team submits a request through a web form," says Martin. "AWS Lambda will monitor for approvals and then make API calls to fulfill the request."

The Benefits

By adding AWS Service Catalog to its CI/CD platform, 3M HIS reduced bottlenecks, strengthened compliance with its governance and control requirements, and took a big step toward fully automated pipeline provisioning. "The biggest benefit is how much time we are saving," says Martin. "By using AWS Service Catalog, I can have a new pipeline ready in 10 minutes, instead of needing days to build it manually. That means less startup time for new apps and much faster feedback loops with customers once the applications are deployed."

3M HIS is also benefiting from the consistency it can now impose across its pipelines and development cycles. "Because we've preapproved the AWS CloudFormation templates that AWS Service Catalog is launching, we know everyone will be working inside the right guardrails," says Martin. "AWS CloudFormation templates also help us avoid manual configuration errors that would need a lot of debugging work later."

Martin says it's clear AWS Service Catalog plays a key role in enabling successful shifts to a DevOps culture. "It's hard to overstate how relevant AWS Service Catalog is to our agile methodologies and CI/CD processes," says Martin. "Especially for complex, global organizations like ours, AWS Service Catalog with AWS CloudFormation templates can flatten the DevOps learning curve and make it much easier to provide product teams with self-service automation."

ABOUT MPHASIS STELLIGENT

With over a decade of experience, Mphasis Stelligent is a Premier Amazon Web Service (AWS) Consulting Partner, AWS Public Sector Partner, and holds competencies in DevOps, Security and Financial Services. It has a demonstrated track record in assisting enterprise customers benefit from AWS' continuous innovation. Mphasis Stelligent brings in-depth expertise in DevOps, DevSecOps, and Data/MLOps automation services to enable security-conscious enterprises to focus on developing business-critical software. It uniquely brings a data-driven approach to assess and steamline DevOps maturity and apply proven 'deep automation' techniques to codify and accelerate complex enterprise migration programs for apps and data that is aligned with the AWS Prescriptive Migration Framework. Learn more at www.stelligent.com

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