CONTINO

AUTOMATED WORKFLOW UNIFIES DEVOPS TOOLBOX FOR RELEASE AGILITY AND QUALITY

CLIENT PROFILE

Industry: Technology – travel and expenses platform vendor

Company: Market-leading SaaS vendor, recently acquired by major name

Location: Washington, USA

Employees: 4,600

TOOLBOX/TECHNOLOGIES

Jenkins

CONSUL

PostgreSQL

NGINX

BUSINESS

- Market leader, but facing competition from other SaaS vendors with newer code base

- Needed to create modern infrastructure for increased quality and velocity of releases

- Pressure to innovate balanced with maintaining platform stability and uptime

CHALLENGE

- Unpredictable and error-prone releases

- Transition to a new code base presented risks

- Little visibility of code as it moved through the SDLC

SOLUTION

- Existing code base improved via an automated workflow

- Partnership in building workflow POC

- Composable models enabled full client flexibility in future tool choices

BENEFITS

- Improved stability and reliability throughout the SDLC

- Knowledge transfer model ensures skills retention going forward

- Stable foundation for future migration to new code base

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BUSINESS

Contino's client is an established (founded in the early 1990s) expense and travel portal vendor and market leader that was recently acquired by a leading enterprise software vendor. The company has a SaaS/cloud-based service that upgrades and updates automatically across all major devices/environments (web, smartphone and tablet).

Whilst the company had enjoyed a position at the forefront of its industry, it was beginning to experience increased competition from other SaaS players. In keeping with a "BiModal" philosophy, the company wanted to overhaul the existing infrastructure and sunset the old hosted code base,

which was out of date and inflexible, while simultaneously keeping it stable and running in the interim. The client was particularly challenged in being able to take code from check-in all the way through the Software Development Lifecycle (SDLC) to initial build and into production. A preemptive step to remain competitive would help the company both support more modern versions and increase release efficiency and frequency. The client also sought to create a "Fail fast" model in which the company could release quickly enough to be able to pivot and adapt in a more agile way.

CHALLENGE

One of the concerns of the existing platform was that the client had no visibility into the various states of work streams and services as they flowed through the development lifecycle, leading to broken deploys that were hard to debug. It was equally difficult to trace issues with business processes as they moved

through their own lifecycle. Whilst the client fully embraced DevOps as a concept, it was still heavily reliant on manual work (in areas such as scripting, configuration and tracking). Migrating to a new code base with this unreliable and unpredictable environment was fraught with risk.

SOLUTION

The company approached Contino and asked for an innovative solution to its challenges. Contino's response was a blend of both tactical and strategic value, with a recommendation to not immediately sunset the old code, but rather automate the existing release processes and replace manual work, which was prone to errors and not scalable. This approach would also de-risk any future migration initiative. In short, Contino sought to make what the client currently possessed as usable as possible and ensure the "lights were kept on" so that customer satisfaction was maintained. Contino worked with the Director of DevOps, who headed up the "Development Operations Group". This Director had invested in a number of technologies as part of the company's "Toolbox", such as Jenkins, Docker, GitHub and Chef. Through its immersion in the client's SDLC, Contino discovered multiple manual

processes and touchpoints for workflow which could easily lead to inefficiencies and jeopardize quality. In addition, core applications utilized an antiquated monolithic code base rather than a more responsive and scalable micro-services model.

Through a proof-of-concept (POC) development cycle, Contino illustrated how an automated approach using various tools was possible. In keeping with Contino's philosophy of increasing skill sets within a client's internal team, it embedded its expert talent within the client's team and built the POC in direct collaboration with them. Contino approached the problem by composing a set of services to work together under the philosophy of exposing the state of artifacts moving through each phase of an automated pipeline for full visibility, transparency and governance.

SOLUTION _{continued}

The POC application utilized various Open Source Software (OSS) services (Jenkins, consul.io, Terraform, Postgresql, and Nginx) as composable modules, thus allowing the client to substitute any part of the stack with new modules at a later date based on changing requirements or needs. On a more strategic level, Contino proved automated workflows for building and testing packages were both possible and performant. In addition, the client also invited Contino to

develop a front-end application to interface with various data services in the stack to represent a snapshot of various artifacts as they moved through state changes. Lastly, Contino created well-defined contracts for metadata illustrating the build steps for packages as they move through the system, reinforcing the robustness and clarity that was essential for any automated, scalable solution.

BENEFITS

The client's back-end team now sees and embraces how they can automate their development pipeline without being dogmatic as to how various engineering teams build their software. Provided each development group consumes the pipeline through well-defined contracts, their services will be tested and exposed through consul.io's DNS and key/value services.

Each phase of a package and its previous build history now becomes quickly available to development managers, exposing any

test failures and regressions so they can be remedied earlier in the SDLC. This approach costs far less when compared to uncovering test failures at a stage closer to production. Contino also provided programmatic hooks into build pipeline events, which allows for dynamic workflows to be tied to key package states.

Overall, the client is now able to release both more quickly and more responsibly, whilst creating a stable foundation for migration to a new code base in the future.

ABOUT US

Contino is a technology and services company specializing in DevOps, Continuous Delivery, and transformational programs. The company's Rapid Prototyping and DevOps Acceleration services help organizations speed time-to-market for high quality new and re-tooled applications. From strategy and operations to culture and technology, Contino helps business and technology leaders identify and address opportunities for growth and profitability. Contino provides training, development, deployment and optimization services for the full stack of DevOps and Agile technologies including application lifecycle management (ALM), modern development and Continuous Delivery tools, micro-services architecture, containerization, security, analytics, testing and cloud infrastructure platforms.

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