How a major UK supermarket transitioned from monthly releases to 50 releases a day with Servana

Overview

Servana provides an efficient method of engaging skilled DevOps resources to build highly scalable platforms and the engineering teams to manage them. We work with some of the world's leading companies to create the platforms they rely on for their future growth.

The Goal

Build a self-managed cloud platform to re-platform for significant future e-commerce growth.

This major UK supermarket had identified that they needed the right platform to meet their goals of increasing e-commerce revenues and profitability.

After deciding on a cloud migration to facilitate future growth, they understood that technical transformation was as much about its people as technology. They chose to partner with Servana because we shared their vision to build a scalable platform for future growth with a DevOps culture at the core.

Transitioning to the cloud provided the benefits of reduced cost of ownership and scalability in seasonal peaks compared with the IBM WCS platform running their current e-commerce business.

While from a technical perspective, the business had goals of delivering releases more frequently with high levels of certainty and zero disruptions, they also had essential staff based objectives to deliver on. Their commitment to retaining as many of their current development and operational staff as possible, meant that one of the project's success criteria was to upskill the existing team. As they had limited experience with cloud architectures, hybrid development teams including consultancy resources were created to support this goal.

Improving developer productivity was identified as an essential objective to support the successful delivery of the project and integration with existing operational processes like operations and change management.

Key challenges

UPSKILL
EXISTING TEAM

LIMITED CLOUD
EXPERIENCE

FIRST MAJOR
PLATFORM PROJECT

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Approach

To meet the customer's goals, we chose to build an in-house platform engineering team. This team became a new internal team to concentrate on building the technology tooling and cloud services to deliver on the goals of the project.

This team focused on building cloud service automation on Amazon Web Services integrated into the developer pipelines and service management like monitoring, logging, and security tools.

To facilitate strong working relationships each of our engineers was also assigned as dedicated support representatives to each product team as we onboarded them. In this role the engineers were responsible for building out the continuous integration pipelines based on Jenkins and integrating our platform source-code to create an automated developer experience. Through reuse of functionality from previous pipeline developments we refined the onboarding of new teams to less than half a day. And by automating the continuous integration pipelines to provide feedback on source-code commits almost instantaneously, developers didn't need to know anything about the underlying hosting platform to join a product team.

However, some challenges affected the developer experience; in the early days, developers experienced issues testing their code locally as they were deploying to AWS - Lambda. To assist, we made it possible for them to quickly deploy local Lambdas in a prototype environment that contained fewer security and governance controls. We provided further efficiencies within the developer experience by enabling developers to quickly prototype subsets of Lambda functions using git-based feature branches, deployed through the continuous integration platform with the Jenkins pipeline.

Creating efficiencies like these within the developer experience, increased the developers' focus on building features and functionality that allowed the project to progress rapidly. We delivered workshops and managed training schedules to upskill the developers while they were productive delivering on their objectives. Many developers commented on how good it was to have something more tangible to work with.

The highly modular platform we delivered, allowed us to modify and improve it to meet development demands. The Product Teams could opt for the capabilities they wanted, keeping the pipelines free of unnecessary code or complex conditionals.

To meet the goals of delivering zero disruptions and high levels of certainty, we integrated platform-level capabilities into each pipeline making the release process reliable and highly repeatable. In practice, this meant that before code entered production, it was deployed and tested during feature development. It was then integrated into the development environment by a git-based pull request, which would begin a sequence of tests that would allow the feature to progress into QA and then production.

To better manage 50 or more microservice releases per day, it was necessary to consider release strategies like Canary and Blue-Green.

Due to the extensive pre-production testing we set up, we rarely experienced issues requiring rollback, as breaking changes could be tested extensively before production. Avoiding difficult and complex changes was one of the reasons we ensured that pre-production was just like production. Sometimes it is tempting to create “lean pre-production environments,” but this makes these changes more difficult to simulate.

Platform level change management was improved by using semantic versioning to describe updates, breaking changes, and patches. Semantic versioning increased the resolution of change requests and allowed automation of patch releases to the production platform, while also reducing the cognitive burden of managing many infrastructure changes. The platform’s change management toolset that we delivered simplified release sign-off and increased future scalability.

Results

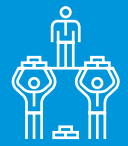
Increase in the feature release schedule from once a month to an average of 50 per day

Replatformed e-commerce site beta release in 9 months, 4 months earlier than scheduled, in time for peak Christmas trading

A large proportion of the existing team upskilled and transitioned from the original e-commerce team to the new e-commerce site over the 24-month project duration

Provided the ability to onboard new teams and projects fast, making the product teams significantly more responsive to business needs

Delivered a secure fault-tolerant, highly available e-commerce platform, that has proved its value during the highest trading times received to date during the Covid 19 pandemic



Reduced the cost of releases, that previously took over two weeks and more than 100 man-hours, to releasing within an hour

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Conclusion

Large business-critical technology transformation projects are often as much about the people as they are the technology. From a DevOps perspective, success lies in solving developer challenges to deliver the stakeholders' objectives.

From the inception of the project, we built a new Platform Engineering team. As well as the technical consultancy, we supported planning, budgets, and recruitment into the team while also providing feedback and support to the project and organisational leadership.

We considered our main customers as the developers, which created a healthy working relationship with the development teams as they grew in numbers from 5 to over 80.

The platform has served the business well from its launch, enabling it to innovate with features that serve the customer experience constantly. From an online shopping perspective, the overall time it took for customers to complete a shop reduced because pages loaded faster.

The shopping process was optimised to save customers time. The platform has provided the business with the confidence to set very ambitious future goals for its online growth.

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Unblocking your developers to ship software faster

Servana's DevOps as a Service helps leading companies and their software development teams build highly scalable platforms with a DevOps culture at the core. By eliminating bottlenecks, wasted time, bugs, and delays, we improve the developer experience, helping them ship software faster.

Interested in learning more?

Contact **tass@servanamanaged.com** for more information