

Using the LaunchDarkly Feature Management Platform, Vodafone has strengthened collaboration among teams and increased release frequency while improving production reliability and enhancing customers' digital experiences.

# Feature Flag Journey Enables Vodafone to Enhance Digital Experiences

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## Introduction

Vodafone is a leading technology communication company that serves more than 18 million mobile and fixed-line customers in the United Kingdom. Headquartered in Newbury, Vodafone plans to grow significantly to support its expanding digital services portfolio. By 2025, the company expects over 50% of all Vodafone employees will work in software engineering.

Vodafone has been on a journey over the past several years to build world-class software engineering capabilities, making significant progress in modernizing its development processes. Vodafone organizes its developers into feature teams, of which there are currently 40. Each team consists of front-end and back end developers dedicated to a product vertical. The teams have an automated pipeline and use Scaled Agile Framework (SAFe) with three-month program increments.

As part of this modernization, Vodafone set itself the goal of achieving 100 deployments a day, in which the company aspired to reach a point where software development teams could safely and securely deploy as frequently as they wanted. However, Vodafone's software development teams were performing "big bang" releases once per quarter only four years prior. Accelerating software delivery required a significant cultural and behavior shift. Previously, deployment and release were the same for most software development teams at Vodafone. But leadership recognized the need to decouple deployment and release to achieve continuous deployment. Decoupling software deployments from releases permitted the teams to deploy updates more frequently and gradually release individual features instead of rolling them out all at once.

## SOLUTION SNAPSHOT

### ORGANIZATION:

Vodafone is a leading technology communication company that serves more than 18 million mobile and fixed-line customers in the United Kingdom.

### ORGANIZATIONAL CHALLENGES:

Insufficient software release speed and reliability inhibiting digital transformation

### SOLUTION:

LaunchDarkly Feature Management Platform

### BUSINESS BENEFITS:

- » More frequent releases with enriched collaboration among teams and stakeholders
- » Improved production reliability leading to an enhanced digital experience

Vodafone recognized that feature flags could enable this decoupling and decided to create its own feature flags by adding boolean flags to the source code and using environment variables to turn the features on and off. However, this roll-your-own approach to feature flags required a new build and release for every change, which wasted development time and proved difficult to manage. It was challenging to release smaller changes in isolation, resulting in larger "flip" releases, where several changes were bundled together and then flipped from blue to green. These larger releases were time consuming, problematic, and risky because if a single change embedded in the release was broken, the rest would need to be backed out. It could take developers hours to turn off one of these homegrown flags while negatively impacting customers. Once it became clear that Vodafone needed a full-fledged solution, the company chose the LaunchDarkly Feature Management Platform to provide the speed, scale, and flexibility required to release more frequently with confidence.

## Implementation

It was essential to Vodafone that LaunchDarkly not feel like a separate system, so it needed to be tightly integrated into the existing development environments without adding friction to the DevOps pipelines. When Vodafone started the process of implementing LaunchDarkly in October 2020, it began by assembling a team that centrally owned and managed the platform. This team acted as the guardians of LaunchDarkly education and used the software development kit (SDK) library to integrate into the Vodafone development environments. This administrative team was also responsible for applying role-based access controls (RBACs) to set up custom roles for LaunchDarkly users. LaunchDarkly was also integrated with the development Slack instance, and a Slack bot was created for feature flag cleanup.

The Vodafone team credits the adoption of LaunchDarkly with being the catalyst for the needed behavioral and cultural changes that enabled users to grasp the value of decoupling software deployments from releases. LaunchDarkly helped the Vodafone software developers understand the "why" behind progressive delivery and feature flags. The LaunchDarkly field services team led workshops to help the software developers understand the power and capabilities of the feature management platform. Through this training, the Vodafone DevOps teams began to take on more ownership and engagement, changing their software delivery outlook.

To begin rolling out LaunchDarkly among the development teams, the engineering leadership at Vodafone started with the most mature team, reasoning that it could serve as a feature flag blueprint for the others. Leadership began with decoupling releases and deployments, collaborating with the initial development team to shape their backlog, and identifying features that would be a good fit for feature flags.

Next, Vodafone grew adoption among the rest of its development teams organically, leveraging the original blueprint team to help others understand how they could use LaunchDarkly. Vodafone hit higher-than-expected adoption through word-of-mouth efforts, such as show-and-tell sessions and workshops, after only four months.

Over 100 users across 15 teams are currently using LaunchDarkly at Vodafone, with 220+ flags being set to date and more than 2 million client-side monthly active users. Presently, the predominant users of LaunchDarkly are developers and release managers. However, Vodafone ultimately desires to have the power of LaunchDarkly in the hands of all team members, regardless of their role, to give more autonomy to teams. Future plans include a rollout to product owners, SCRUM masters, testers, and business analysts.

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## Benefits

### *Developer Confidence and Satisfaction*

Using feature flags, software developers now have a clear line of sight into how their changes are rolled into production and the impact on the production applications running on Amazon AWS, with the ability to roll them back if needed. By adopting LaunchDarkly, developers could deploy at their own pace and frequently as desired. Developers could also move to trunk-based development to eliminate the overhead of merging changes from prolonged release branches. The added levels of insight and control into releasing new features have given the Vodafone software developers confidence in their ability to do continuous deployments. This added confidence has helped them move toward their stretch goal of deploying 100 times per day, and Vodafone indicated that March 2022 was their most successful month, with over 220 releases.

Certain teams at Vodafone had to do overnight releases due to dependencies on external systems and applications. However, the decoupling of deployment and release via feature flags permitted development teams to deploy their code without worrying about those dependencies. Further, they could schedule these overnight releases, eliminating the need to waste valuable developer time and reducing developer toil.

### *Collaboration Across Roles*

Although front-end and back-end developers were already working jointly on product-focused teams, LaunchDarkly helped them think about how their software and features work together — for example, understanding the implications to the front end when a new back-end change is enabled and how the capabilities provided by the LaunchDarkly Feature Management Platform can ensure cross-dependent changes are rolled out successfully. Collaboration between development and the business teams has also improved since the implementation of LaunchDarkly. Gone are the days that saw an endless queue of requirements passed over a wall. Development is now directly connected with product owners and specialists driving campaigns, with everyone working in tandem.

The LaunchDarkly platform has enabled Vodafone to comprehensively log all its software deployments, including who changed a feature flag and when the flags have been switched off and on. This enhanced logging provides an audit trail for the compliance team and makes it possible to understand all the steps taken to get the production system into its current state.

LaunchDarkly has also helped increase collaboration with Vodafone's release team. Before feature flags, releasing could be a complicated process of mapping builds and deployment environments, with applications in different languages requiring different efforts. LaunchDarkly, in combination with good naming conventions and descriptions, made it possible for anyone in the organization to release a feature to customers.

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### ***Reliability and Customer Experience***

When all feature flags are managed via code, it is easier to clone production and create ephemeral test environments that mimic production and enable all the same features. This flexibility enhances the ability to develop robust test environments or build hybrid environments with different collections of features enabled for development testing. Creating ephemeral production-like test environments quickly via code helps Vodafone effectively test innovations and catch problems early. Software bugs found in development are much easier to resolve without impacting production systems.

LaunchDarkly has been key to ensuring Vodafone customers get the best possible digital experience. Even though Vodafone has released a record amount of software changes, the company saw its highest availability this past year. When a new feature impacts a production system, Vodafone development teams can resolve incidents instantaneously. Since new features can be released gradually, isolating the problem is straightforward. Using the LaunchDarkly platform, developers can revert problematic changes with minimal customer impact. With the problem isolated, developers can quickly and confidently address the underlying software bug before re-releasing the fixed code back into production.

Recently, Vodafone used the LaunchDarkly multivariate feature flag capability (i.e., not a boolean flag) to test and direct customers to different multifactor identification (MFA) systems using feature flags. Further, using the LaunchDarkly analytics, Vodafone can gather data about each system and make an informed decision before employing one for all users.

### ***Positive for Both Internal and External Stakeholders***

LaunchDarkly feature flags have been an essential tool in helping modernize software development processes and streamline change management. Vodafone has seamlessly integrated LaunchDarkly into its development environments, decentralized its change approvals, and empowered developers to release new software updates. Enabling more frequent software releases using the LaunchDarkly feature flag platform allowed Vodafone to standardize and consolidate its release catalog while taking advantage of custom roles and fine-grained security and access controls to protect the software supply chain. Further, the LaunchDarkly platform has enhanced collaboration across roles with better production reliability and resilience, improving customer satisfaction.

### ***Methodology***

LaunchDarkly identified Vodafone as a suitable candidate for an IDC Customer Case Study. IDC obtained the company and background information in this document through an extensive interview with the Vodafone team based in the United Kingdom. LaunchDarkly was not involved in the interview process. All the questions were posed directly to the Vodafone team by the IDC analysts, and Vodafone has reviewed this document to ensure accuracy.

## About the Analysts



### ***Jim Mercer, Research Director, DevOps and DevSecOps***

Jim Mercer is a Research Director within IDC's DevOps Solutions research practice. In this role, he is responsible for researching, writing, and advising clients on the fast-evolving DevOps market. Mr. Mercer's core research includes topics such as rapid enterprise application development, modern microservice-based packaging, application security, and automated deployment and life-cycle/management strategies as applied to a DevOps practice. In addition, he examines how the move to DevOps methodologies impacts enterprise use of open source and preferences for using on-premises computing and development platforms versus public cloud services. He looks at how organizations are prioritizing DevSecOps and using automation to insert security assessments at the beginning of the DevOps delivery pipeline (i.e., shift left). Mr. Mercer advises senior IT, business, and investment executives globally in the creation of strategy and operational tactics that drive the execution of digital transformation and business optimization.



### ***Katie Norton, Senior Research Analyst, DevOps***

Katie Norton is a Senior Research Analyst within IDC's DevOps Solutions research practice. In this role, she is responsible for researching, writing, and advising clients on the fast-evolving DevOps market. Katie's core research includes topics such as rapid enterprise application development, modern microservice-based packaging, application security, and automated deployment and life-cycle/management strategies as applied to a DevOps practice. In addition, she examines how the move to DevOps methodologies impacts enterprise use of open source and preferences for using on-premises computing and development platforms versus public cloud services.

## MESSAGE FROM THE SPONSOR

LaunchDarkly is a feature management solution that enables modern DevOps practices like trunk-based development, continuous deployment, experimentation, and progressive cloud migration. By decoupling deployment from release and providing a framework for managing feature flags at scale, LaunchDarkly helps teams reduce friction across the entire software delivery process. For more information about how to improve release and change management, read our recent paper, *Reconciling Change Management and Continuous Delivery*:

<https://launchdarkly.com/solutions/change-and-release-management/>



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