



# Vodafone UK

Digital Department



PERFORMANCE

Case  
Study



CROSSJOIN



## SUMMARY

**Vodafone UK** is renewing its Digital infrastructure and software based on the new web standards, best practices and technologies.

The new web site and services will be based on the Cloud using virtualisation and microservices taking advantage of what Amazon Web Services has to offer. The Vodafone Native Mobile app and backend need to be fast and error free to improve customer experience, engagement and be able to serve marketing campaigns without issues.

Aligned with these expectations, Crossjoin provides performance recommendations and new design solutions in accordance to Vodafone Digital teams Agile and Scrum methodologies.



## ABOUT THE CLIENT

One of the world's leading mobile communications providers, operating in 36 countries and in partnership with networks in over 55 more.

Employs over 13,000 people across the UK connecting people, businesses and devices to help their customers benefit from digital innovation. Services include mobile, fixed line and broadband.



## CHALLENGE

The Digital team work with an agile methodology. It's a fast-passed environment with constant releases that need to be under approved SLAs and our work needs to enable this.

The new environment is focused on scalable and on demand architecture that presents new challenges and paradigms to Vodafone and it want to ensure the transition is smooth and any live incidents have a resolution as fast as possible.



## WHY CROSSJOIN

**Crossjoin** is recognized in the market to have a **performance engineering** methodology that guarantees success in achieving results in projects defined as “impossible” missions. Impossible means most of the times that client teams already have put their effort in a high number of performance work iterations without having the results they search.

In the past Crossjoin worked with Vodafone on the transformation to improve and renew the new Customer core business stack, we helped stabilize the stack to guarantee maximum availability and reduce costs by improving the efficiency of the applications and flows that were implemented.

Our success and adaptability to the client allowed us to expand into other areas at Vodafone like Business Intelligence, Domain development and now the brand new Digital Architecture that is being implemented.

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*“Crossjoin has proven to be a strategic partner we can trust to achieve results. Crossjoin offers Vodafone UK the time needed to focus on our core business while their team of experts monitors our IT systems and processes. Always delivering on time, quality and budget.”*

**Pedro Sardo – CIO Vodafone UK**



## SOLUTION

A Solution Performance Architect from Crossjoin joined the Architects Team on Digital with the goal of providing important feedback and inputs for sprint planning and performance best practices.

Within this team Crossjoin is able to impact the work of different teams to ensure Vodafone is following the best route to achieve their goal: Improve customer experience and provide a reliable and scalable infrastructure. Crossjoin follows closely the Performance Acceptance Tests to ensure the detection of potential pain points and resolve performance problems that are found before they reach the live environment.

With Crossjoin's methodology in mind, evidences and proof are gathered before any change is made so it can measure every improvement that was done to confirm the solution reaches the goal that was set.

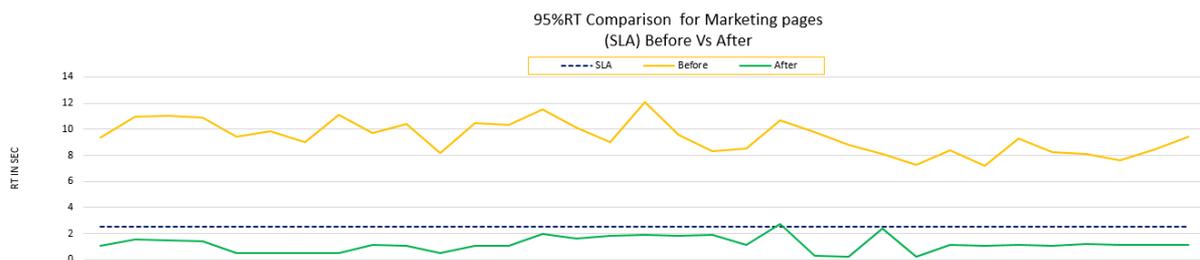


# RESULTS

## Marketing Pages

Marketing pages for the new platform was under performing when tested against production load. Analysis was done to understand where the time was being spent on these new pages. With the help of the Amazon console and Crossjoin expertise a few problems were discovered and fixed:

- Auto Scaling configuration for the containers of the web servers were tuned to allow proper sizing during high traffic peaks.
- Node.JS configuration changes reduced CPU utilization by 60% and improved response times.
- AWS Lambda functions were tweaked to use REDIS cache for repetitive calls to other systems and guarantee they were kept alive to avoid re-initialization





## New e-Shop

During the current phase of migration to the new architecture, Crossjoin helped Vodafone understanding the new cloud challenges and improving the response time of the new architecture.

Recommendations to the new e-Shop provided improvements of **40% to 90% across the different journeys** by identifying RCA of slowness and by suggesting architectural changes to take advantage of the new cloud environment.

Suggestions for monitoring and analysis of the environment helped Vodafone to better understand the cloud infrastructure leading to **higher availability, reliability and better utilization of provisioned cloud resources.**

## MyVodafone App

Crossjoin were asked to help the MyVodafone App team to improve responsiveness of the app as well as reduce the percentage of unique users that were observing errors on the app.

Crossjoin did a deep dive on the native iOS and Android applications to understand where the time was being lost when opening the app until the first relevant data was presented to the customer.

A detailed breakdown was presented to Vodafone with a list of recommendations that **reduced the time by 60% .**

Regarding the high error rate values, Crossjoin provided valuable insight on ways to increase the visibility and understanding of the errors helping the error rate to be reduced by almost 50%.