

# Qualitest Helps a UK Government Legal Platform to Provide a Consistently Better User Experience



## Challenges

The Client's platform was only able to support 1,000 users, when it needed to support 6,000 users.

Preparing test data was a long process due to several relationships between the data sets and database validation which had to be performed.



## Solutions

IAAS was transferred to PAAS and subsequent services transferred to AKS.

Implementation of real-time Dynatrace dashboards in an NFT environment.



## Results

End-to-end testing time was cut by 75% which made it much easier to conduct several tests each day.

Implementation of real-time Dynatrace dashboards in the NFT environment helped improve visibility into the project by up to 30%.



## Client overview

Our Client is part of a large UK government department that deals with judicial process and has a major and complex system that integrates with different parts of the judiciary, police and so on. It works to protect the public and reduce reoffending and to provide a more effective, transparent criminal justice system for victims and the public. It is developed, tested and quality assured by meeting users' needs with reference to relevance, accuracy, timeliness and accessibility.

**“Qualitest ensured that end-to-end testing time was cut down by 75%, which made it much easier for our Client to conduct several tests each day.”**

## Ensuring a strong performance testing approach to accommodate multiple users at once

The platform was only able to support 1,000 users when we joined the programme while it was designed to support at least 6,000 concurrent users. Qualitest identified reasons for failures in the platform when traffic was increased i.e. while operating with more than 1,000 users, "Notepad Parsing" & "Share Results" failing to reply within timeout limit and a few other services which were also responding slowly.

Preparation of test data was a laborious operation that took two to three hours to complete due to several relationships between the data sets and the numerous layers of DB validations that had to be performed. The objective was to perform and support the tests by loading 6000 concurrent users with 2000 hearings.

Qualitest worked with the Client to build a strong performance testing approach that would accommodate testing of 6,000 users to validate the services that caused the slowness and timeout issues.

## Providing a robust NFT solution to support over 6,000 concurrent users

The program had attracted a lot of publicity, and we joined a challenging environment that needed to see quick results and as well as quality levels improving significantly.

## Qualitest achieved all our Client's NFT requirements in the following ways:

- Identified, developed and tested important non-functional requirements for the entire project.
- Identified deadlocks related to file services during large file processing.



- Designed transaction workload models based on actual consumer behaviors.
- Used the Azure portal, Dynatrace, Kibana, Zabbix, and Kibana for server-side statistic monitoring and analysis.
- Implementation of real-time Dynatrace dashboards in an NFT environment.
- Building robustness and validation into the tests.

In order to achieve the needed performance, the project provided an approach to transfer IAAS to PAAS and services to AKS. We determined that the AKS cluster and its components were the right size to accommodate both the current and anticipated volumes.

In addition, Qualitest monitored and thoroughly examined a few problem areas (private and public topics), found hotspots that were leading to long response times and offered solutions. As a result, the programme now supports 6,000 users as opposed to 1000 users in the previous iteration.

## Key benefits

- End-to-end testing time was cut down by 75%, which made it much easier to conduct several tests each day.
- The testing programme now supports 6,000 users as opposed to 1,000 from the previous iteration through the fixing of hotspots with robust solutions.
- The performance of the application was improved by up to 60% when transferring from IAAS and PAAS and their respective services, to AKS. This ensured that the AKS cluster and its components were the right size to accommodate both the current and anticipated volumes.
- Visibility into the project was improved by up to 30% through the implementation of real-time Dynatrace dashboards in the NFT environment.
- The NFT environment was improved by up to 50% via the utilization of the Azure portal, Dynatrace, Kibana, Zabbix, and Kibana for server-side statistic monitoring and analysis. This was attributable to more appropriate configurations of the environment and the test profile(s).

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