Software Company Case Study

Identify errors ahead of cloud migration deployment with validation testing

Occam's Razor was able to **identify multiple issues within their clients' contact center infrastructure** prior to launching their new Genesys Cloud environment

Industry

Integrated accounting, payroll and payment systems.

Challenge

- Roll out a new Genesys Cloud contact center environment
- Ensure each element of the solution is operating to specification
- Identify any issues before migrating agents and customers to the new Genesys Cloud platform

Profile

- Multinational enterprise software company
- Work with millions of businesses
- Serve customers in 23 countries

Benefits

- Ensured system is operating to specification · Highlighted the many different elements that need to be working correctly · Mitigated risk in production · Improved customer experience

Solution

Occam's cloud migration QoE (Quality of Experience) verification testing using Razor.

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The Client

A British multinational enterprise software company listed on the FTSE 100

The market leader for integrated accounting, payroll and payment systems.

Serves customers in 23 countries and works with millions of businesses.

The Challenge

Our client was in the process of rolling out a new Genesys Cloud contact center environment across the globe, and needed to perform a number of load tests in order to stress test their own network, systems and Genesys Cloud platform that makes up their contact center.

The purpose of these tests would be to ensure that each element of the solution was able to perform under real life conditions. If these tests highlighted any issues, they could be dealt with before moving to the production environment where customer calls could be affected.

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The Solution

Using Razor, the Occam professional services team were able to quickly and efficiently generate high volume traffic using defined customer call flows.

This enabled the organization to observe how all elements of the underlying infrastructure, as well as the customer experience performed in peak traffic conditions, prior to switching over to the new cloud deployment.

The UK verification testing, comprising two elements, was conducted outside of normal business hours. This test consisted of:

An initial test generating 20% of anticipated call volumes for a period of 5 minutes to ensure systems were operating as expected.

A further high-volume load test generating 100% of specified call volumes to ensure system stability when running at capacity for a period of 15 minutes. At the midway point, the client would initiate a failover to their DR environment to ensure this was also operating to specification

First Testing Session

The initial test, where 20% of anticipated calls volumes were generated through Razor, successfully confirmed that the anticipated customer experience was being delivered without any issues, providing the customer with confirmation that the CX had been built and delivered in alignment with the brief.

However, the second phase, where 100% of the anticipated call volume was generated to ensure system stability at capacity, failed with the infrastructure only able to withstand around 50% of the required call volumes.

To rule out and highlight potential points of failure, the Occam professional service team conducted further testing with variable criteria and shared these results with the customer and wider team.

During the debriefing session with the clients' technical teams and CCaaS representatives, the Occam professional services team identified errors within the configuration of their network and Quality of Service (QoS), specifically the expedited forwarding (EF) of the audio streams.

Armed with the results of the initial test sessions, the customer was able to work through the issues with their networking team and carrier in preparation for the retest.
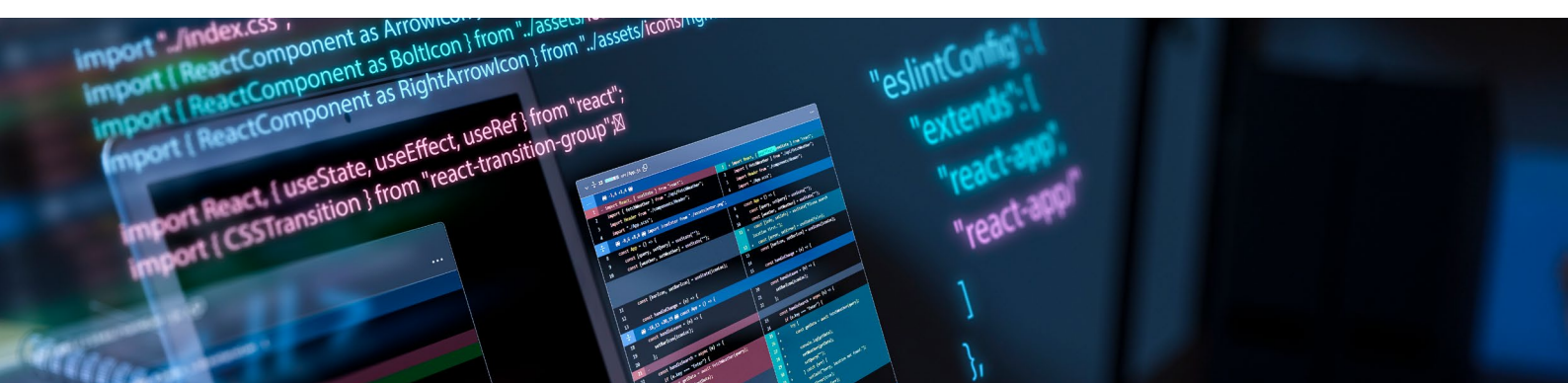
Second Testing Session

Despite assurances from their carrier that the identified errors had been resolved, the second test session presented similar results.

Working with Occams' professional services team during the session, the customer was able to isolate the error being related to the carrier configuration, rather than the internal network and a new test script was created and executed in real time, to validate the customers' assumptions and allow them to present unequivocal evidence to their carrier.

Third Testing Session

Following confirmation from the carrier that the SBC's EF limit had been increased, the customer scheduled an additional out-of-hours test with the Occam team. On this occasion the test confirmed that the original configuration error had been resolved, however the test was still unable to reach the required capacity.

Using the data immediately available from the test results allowed the project team to identify that the bottleneck was being caused due to a load balancing configuration error on the customers edge devices. The customer was able to resolve this immediately on the call and the subsequent test executed successfully.

The Occam team carried out one final test where the customer failed over to the backup system midway through the test which also performed as expected.

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Testing Outcomes

From completing verification testing the following issues were identified before launch and before they impacted the end customer experience:

Carrier SIP trunk mis-configuration limited capacity to 50%.

QoS configuration errors caused voice quality issues when call volumes hit over 60% capacity from the CCaaS Edge.

Incorrect load balancing between customer SBC's caused calls to fail intermittently.

DNS lookup delays for API calls to the customer database caused wait times to increase.

Resource problems with backend server farms caused data lookups to fail under load and calls to error/disconnect.

External cloud TTS capacity limits under load caused error messages and calls to fail.

Conclusion

This case study is a clear demonstration of the importance of migration verification testing ahead of a deployment to production.

There are many different elements that make up a CaaS environment, and each part must be configured correctly in order to avoid serious customer impacting errors.

That's why it's so important to thoroughly test and validate the systems before they go live.

With this migration verification, Razor uncovered problems with SBC and routing configuration, QoS configuration and EF bandwidth allocation, all of which are crucial to the successful deployment of the Genesys Cloud environment.v
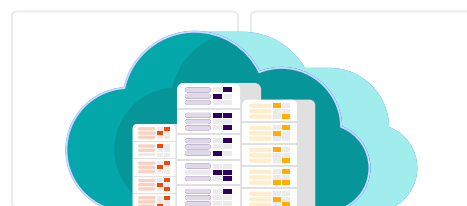
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About Occam

After nearly two decades of professional experience together providing voice and data solutions for global blue-chip organizations, we've created a company focused on providing innovative, automated testing software to support contact centers and enterprise UC systems.

Fueled by a commitment to continuous innovation, our team is passionate about ensuring our customers can deliver the type of customer experience that allows them to achieve their business objectives.

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