aspire SYSTEMS

attention.
always.

How Performance Engineering Solutions Restored Real–World Customer Experience

About the Customer

Our customer is a leading identity data intelligence company providing a variety of ID checks based on the business requirement. Their software solutions help businesses to overcome identity fraud and money laundering challenges, ensure regulation compliance, improve operational efficiency by saving time and resources and deliver KYC profiling. Their products are developed on vast data obtained from over 200 global partners from 23 countries to detect fraud and verify the identity of over 4.4 billion people globally.

Challenges

Our customer wanted to regenerate their customer integration environment by building a one-stop solution to validate and assess the performance of their application Programming Interface (API) for functionality.

Their attempt to provide a seamless experience to the end customers failed since they were facing numerous performance issues with the integration of their applications and end customer's systems. This led to the incorrect measurement of performance metrics and security challenges many unsatisfied customers, loss of revenue and delayed time to market. Hence, they required a testing expert to

Challenges

help them overcome the following challenges and provide a smooth, agile and seamless integration environment to connect with their end customer.

» Performance bottlenecks reported by the end customers

» Inability to imitate real end-user behavior

» Issues with performance tests driven by transactions per second

» Need to recreate the customer integration environment

» Longer release life cycle due to the delay in validating the new version of API

» Inability to identify defects within performance tests resulting in performance issues

» Version compatibility issues concerning software tools/ frameworks used for mock service development
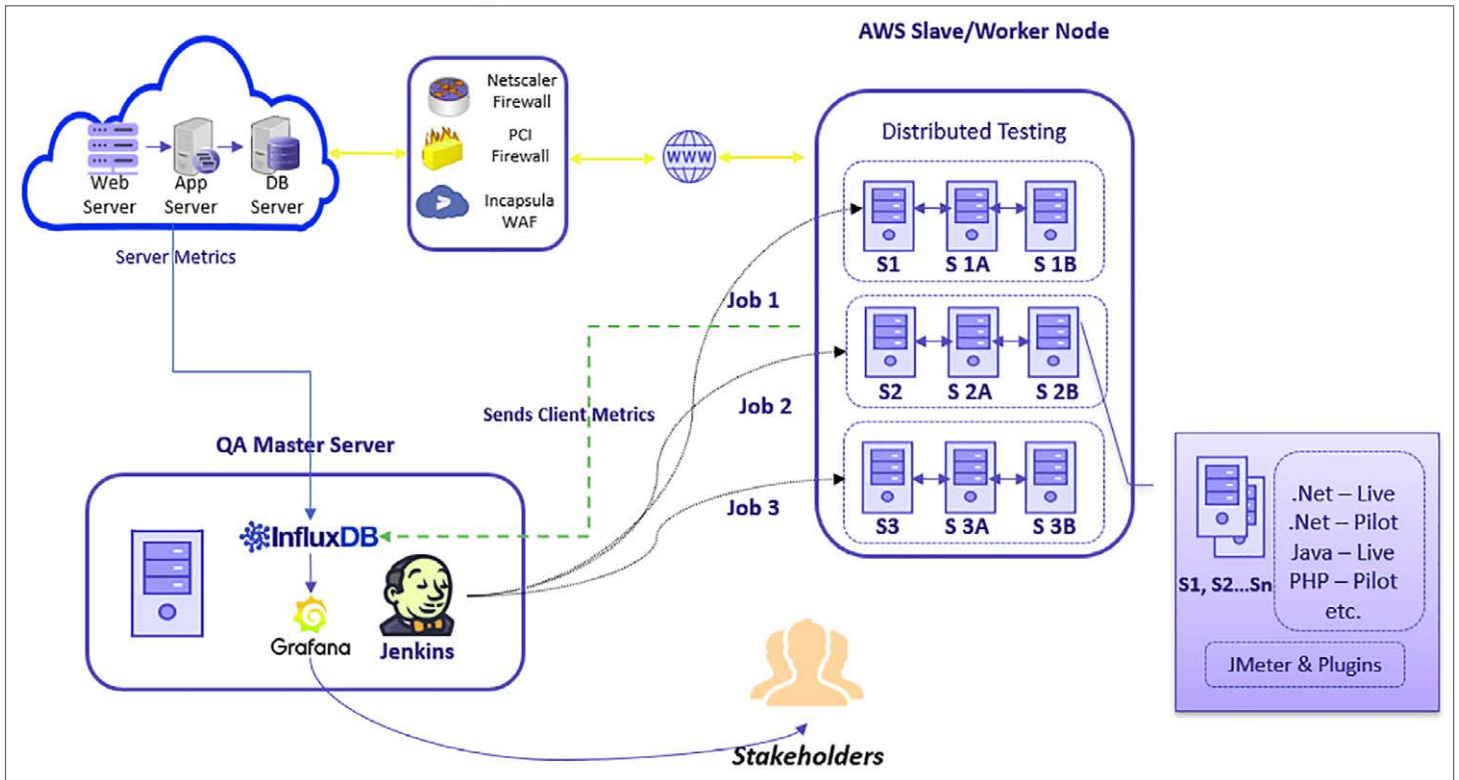
Solutions

Considering the situation, they collaborated with Aspire Systems for the expertise and experience we have in handling such testing challenges that include our testing capabilities, accomplishments, and ability to provide custom-built solutions to real-time testing challenges. Aspire's testing experts validated the challenges and applications, came up with a tailor-made performance engineering solution called Hyper-Testing, that did not stop with augmenting performance, compliance, and security but also automate manual testing efforts, increase efficiency, improve time to market and enhance ROI.
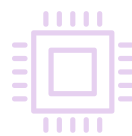
» Developed user interface using Angular 6

» Set up analytics and monitoring tool - Grafana

» Built custom dashboards to monitor client metrics

» Followed industry standard best practices for the mock service development and API integration

» Integrated Grafana with CloudWatch to allow access to server metrics to be included in the dashboard

» Set up continuous integration pipeline with Jenkins to run performance tests for every code deployed in the respective environment

» Upgraded to the latest SOAP integration framework like Apache CXF3.3.0 for Java version 10 and greater to resolving compatibility issues

» Parameterized Jenkins job for mock service type, number of virtual users, etc. to help build the test as per the user-defined parameters

» Integrated JMeter tests with Jenkins using 'Lightning' to analyze if certain metrics go beyond the defined threshold for different SLAs

» Developed REST-based mock services to test the integration of SOAP API endpoints and assess the performance of the Web Services Platforms like Java,.Net, PHP
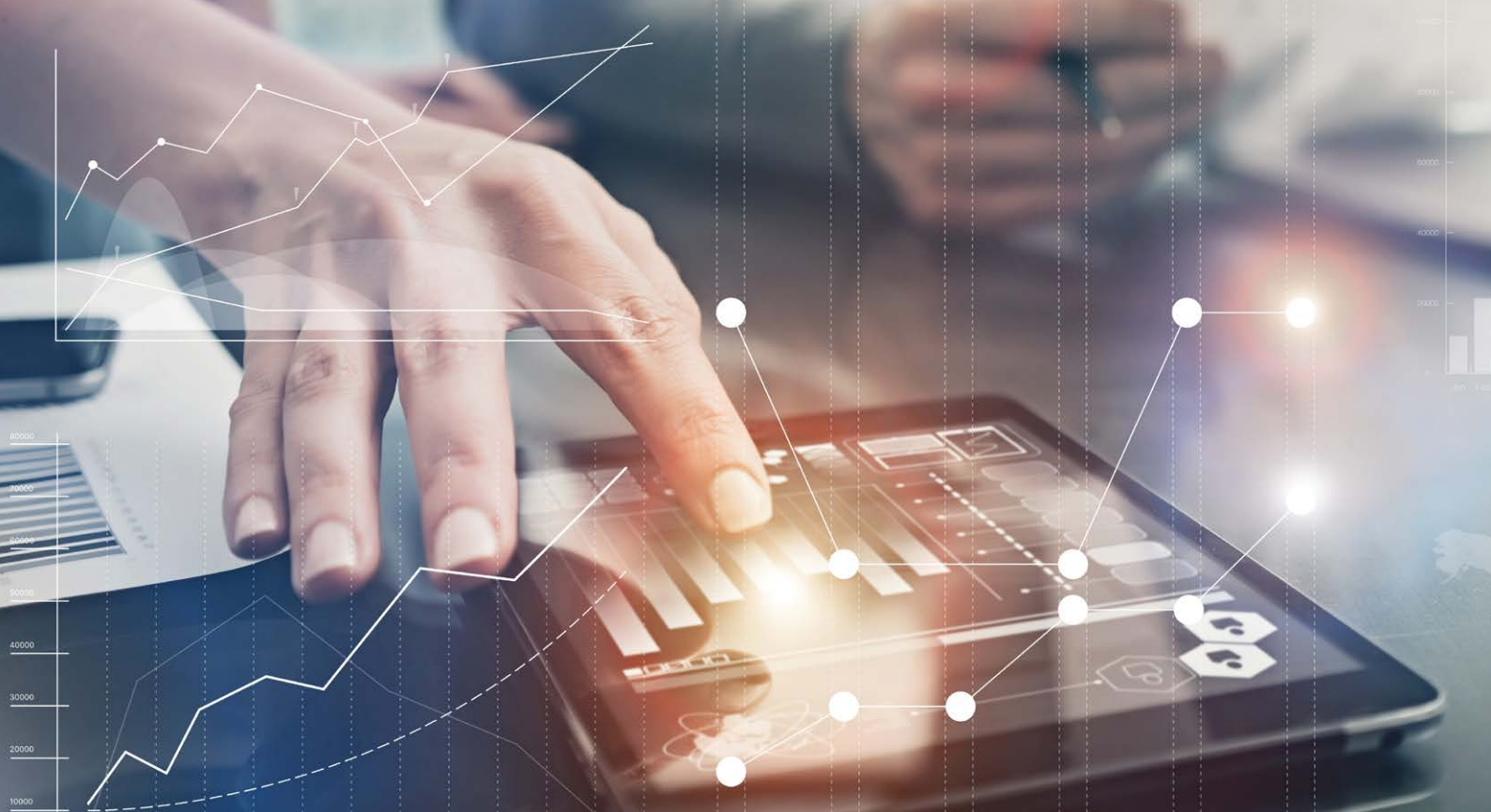
Solutions

» Recreated the setup through distributed testing with AWS (Load Generators) as the service is accessed by many end users, thus ensuring the request is from different IPs

» Created real end customers like environment with AWS cloud setup with mock services (.Net, Java & PHP) on AWS worker nodes and the services validated through JMeter test scripts via the mock services
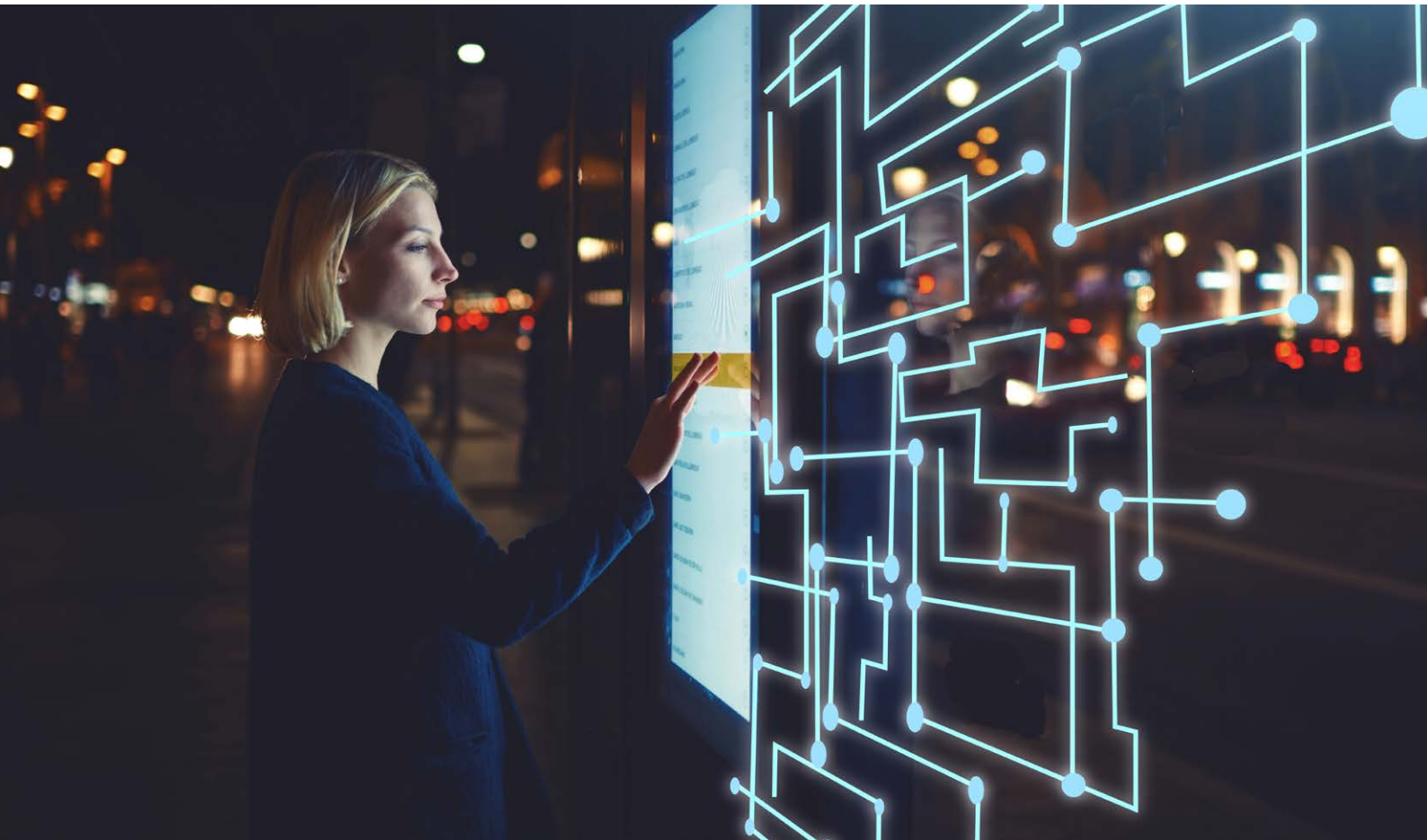
Technology Snapshot

» Jmeter
» Jenkins
» Grafana

» InfluxDB
» Lightning

Benefits

Aspire Systems helped the customer achieve the following:

» Enable testing for different environments

» Implement constant monitoring and reporting

» Achieve performance test results for each build

» Run existing JMeter scripts as functional API tests

» Share performance metrics and dashboards with stakeholders

» Ensure faster CI/CD feedback cycles leading to quicker time to market

» Automate their manual testing efforts both functional and performance

» Identify and fix key performance issues through performance assessment

» Facilitate stakeholders with enhanced insights for accurate decision-making

» Validate the broken customer integration after releasing the new version of API

» Reduce cost by involving open source toolset like JMeter, Jenkins, Grafana, InfluxDB, Lightning

» Recommend better and optimal performance metrics to setup integration environment using performance test results

Aspire Systems is a global technology services firm serving as a trusted technology partner for our customers. We work with some of the world's most innovative enterprises and independent software vendors, helping them leverage technology and outsourcing in our specific areas of expertise. Our core philosophy of "Attention. Always." communicates our belief in lavishing care and attention on our customer and employees.

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