

APP8 SCALE TESTS THEIR RESTAURANT EXCHANGE SOLUTION

App8 has created a restaurant exchange solution that streamlines the way restaurants interact with their clients. In order to confidently grow their client base, App8 conducted scale testing of their solution on the CENG N cloud.

App8 is an Ottawa-based company, founded in 2017, that specializes in creating frictionless payment and consumer experiences by leveraging technological advancements and data analytics. Launching into the market last year, App8 has brought their solution to 22 restaurants in the Ottawa area and roughly 4,500 individual users. Now the breakout capital city company is looking to take the next big step towards expanding their userbase. To do so, App8 completed a CENG N cloud project to test the resource requirements of their solution as it is scaled for more users.



AUGMENTING THE CUSTOMER EXPERIENCE

App8 has introduced a mobile application that is used by both customers and restaurants to enhance the traditional way servers interact with customers. It reduces wait time through both its check-in feature alerting servers when a customer gets to the table, and a mobile payment feature that allows the customer to pay immediately when finished eating rather than waiting for the bill.

It works by setting an individual tracking number linked to the customer's App8 account, allowing the restaurant to send the bill directly to the customer's phone through the App8 server before their meal is complete. This way, the customer can pay for their meal without waiting for the server to bring the physical bill and then the machine. The mobile application is also designed to build the loyalty of customers.

Beyond the obvious convenience of being compatible with App8, the solution allows restaurants to offer and manage custom membership and reward programs through the app. Not only this, the platform gives restaurants metrics and analytics about App8 using clients to help these businesses run more effective target marketing campaigns.

PATH TO GROWTH

Finding initial success in Ottawa, the company is ready to move to the next level of commercial growth. App8 is aiming to be adopted by new users and restaurants in cities outside Canada's capital. Having users increase in critical mass is the end goal of any application-based business, however with this increase comes a requirement for scaling company resources. A growth in users results in new transactions and more network strain. In order to ensure they are ready for the next step in commercial growth, App8 decided to conduct a CENG N project, testing their solution at scale by simulating a massive increase in users and network traffic.

DEPLOYING THE SOLUTION ON THE CLOUD

For this project, App8 was provisioned with an isolated cloud environment running 11 virtual machines (VMs). The solution's backend was deployed on 5 VMs, which was connected to another two VMs, one running Mongo database (DB) and the other Monstache. Mongo DB was used to store the data from the solution, and Monstache worked to sync the database to the backend. Three more VMs were created to simulate different functions of the App8 solution. One VM simulated the payment gateway, while another simulated the point of sale, and a third simulated the mobile app initiating a transaction. These VMs would simulate client behaviour, sending the different traffic flows through the solution. By setting up the three functions on separate VMs and using separate network connection for each, App8 was better able to monitor the behaviour of the platform more granularly, understanding how increasing traffic flows for each function effects their solution. The project was monitored by a VM running the open source monitoring tool Prometheus.

CENG N MEMBERS



TESTING THE PLATFORM

By deploying the App8 platform on the CENGN cloud, the Ottawa company validated the portability of their solution, verifying that it can be deployed on other cloud environments.

While simulating traffic, App8 increased the load of clients incrementally in order to measure resource consumption with different numbers of users. This load testing accurately measured resource utilization, giving App8 definitive resources requirement and cost predictions for when they onboard customers and users. The scale testing also measured both the max capacity of users for App8's solution to run while relying on Mongo DB and Monstache.

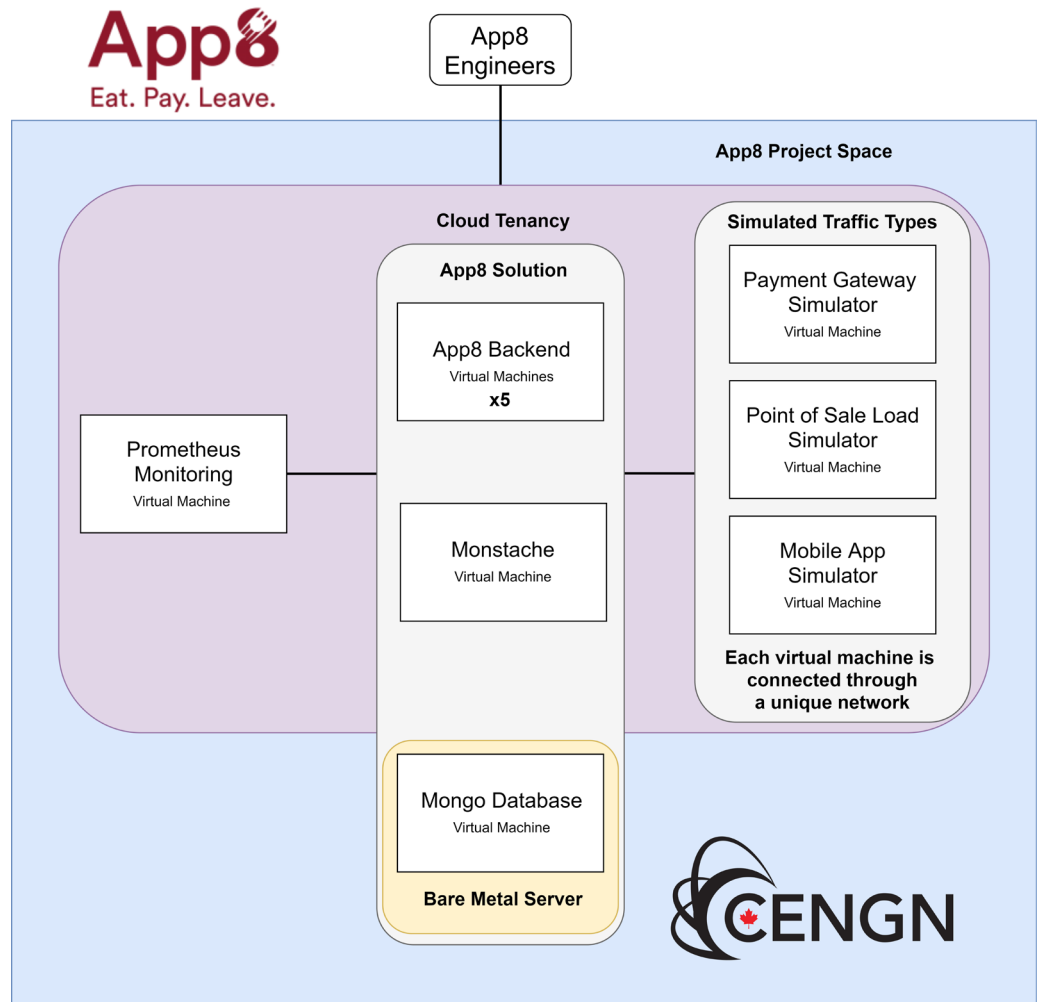
VALIDATED SCALABILITY

Upon completion of the project, App8 determined that they can confidentially support 5 major cities on the platform, with hundreds of thousands of clients. This will allow them to approach large restaurant chains with their solution. While this is already an excellent result, App8 was also able to gain a deeper understanding of their platform and identify areas for improvement. With these improvements, App8 will be able to further optimize their solution and support even more users and restaurants.

LEVERAGING CENGN

CENGN's solution engineering team designed the project space to meet App8's needs. By separating traffic flows based on the platform's functions, App8 was able to identify the components of their solution that create bottlenecks and where the opportunity for product improvements lie. CENGN is a great resource for growing Canadian businesses, as through testing, we are able to provide detailed monitoring data that will allow project companies to better evaluate their solution's performance, gain a deeper understanding of their solution, and create further improvements to make their product more robust.

By leveraging these services, App8 now understands the resource utilization of their product as they incrementally scale as well as have the information necessary to improve the performance of their platform. CENGN is excited to see this innovative company on the path of accelerated growth.



App8 Project Space on CENGN Infrastructure