Fimple

Fimple Cloud Based Core Banking System

Benchmark Report

05 May 2023

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Introduction

On **May 5, 2023** Fimple conducted a load test on the Fimple Cloud Based Core Banking System by using **K6 testing tool**. The object of the engagement was to load test the system using the **Azure** environment for **Account Opening API**.

In this context, K6 called Account Opening API continuously in a pre-defined time period and the result rate of transaction processing was recorded in **3 different system configurations**. **The configurations** and **the results** are shown in the tables below.

System setup

Configurations	Option 1	Option 2	Option 3
POD Count	60	94	141
RAM/CPU	4 GB / 8 Core	4 GB / 8 Core	4 GB / 8 Core
MAX IOPS	88000	88000	88000
VM For Kubernetes	Azure E32bs_v5(x4), 256 RAM, 32 Core	Azure E32bs_v5(x8), 256 RAM, 32 Core	Azure E32bs_v5(x16), 256 RAM, 32 Core
VM For Database	Azure SQL Manage Instance 16 Core	Azure SQL Manage Instance 32 Core	Azure SQL Manage Instance 80 Core
Disk	Premium SSD v2 Disk Storage	Premium SSD v2 Disk Storage	Premium SSD v2 Disk Storage

Results

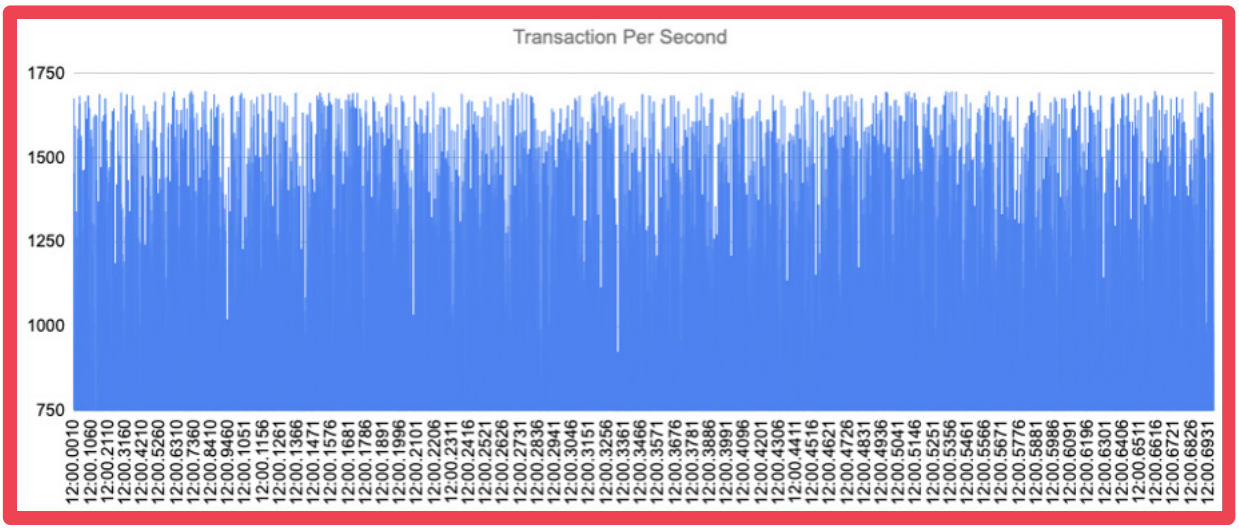
	Option 1	Option 2	Option 3
TPS (Transaction Per Second)	1.000	3.000	5.000
Batch Per Second	~59.000	~57.000	~54.000
Duration (min)	10	10	10
Customers	1.000.000	2.500.000	5.000.000
Accounts	5.000.000	12.500.000	25.000.000
Users	2.500	5.000	7.500

Utilization

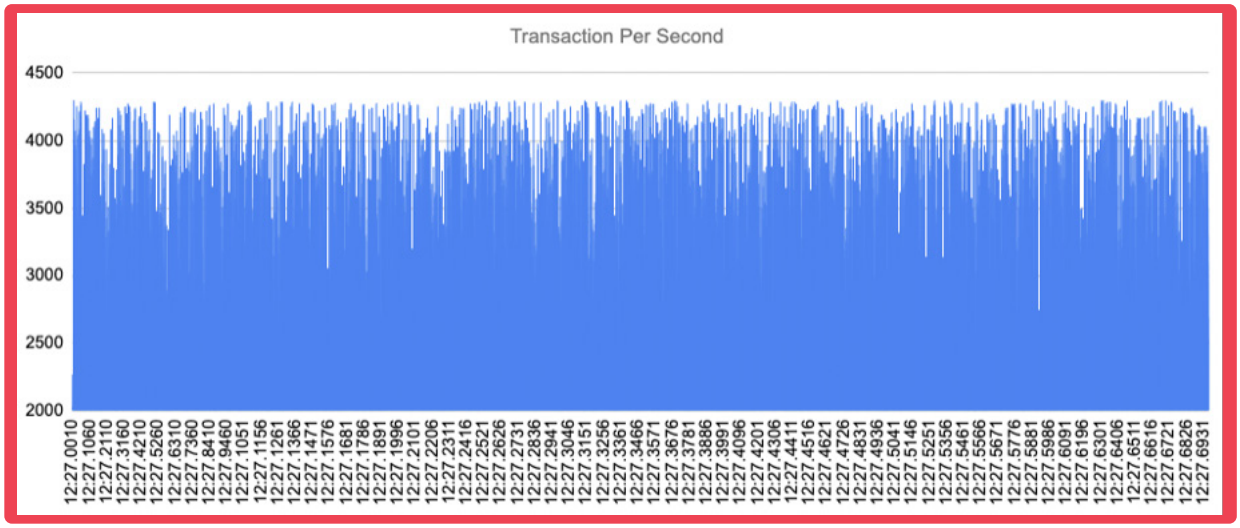
	Option 1	Option 2	Option 3
DB CPU	65%	79%	87%
POD CPU	72%	78%	89%
POD RAM	24%	37%	56%
Response time (ms)	60.41	59.36	58.42

Graphical representations

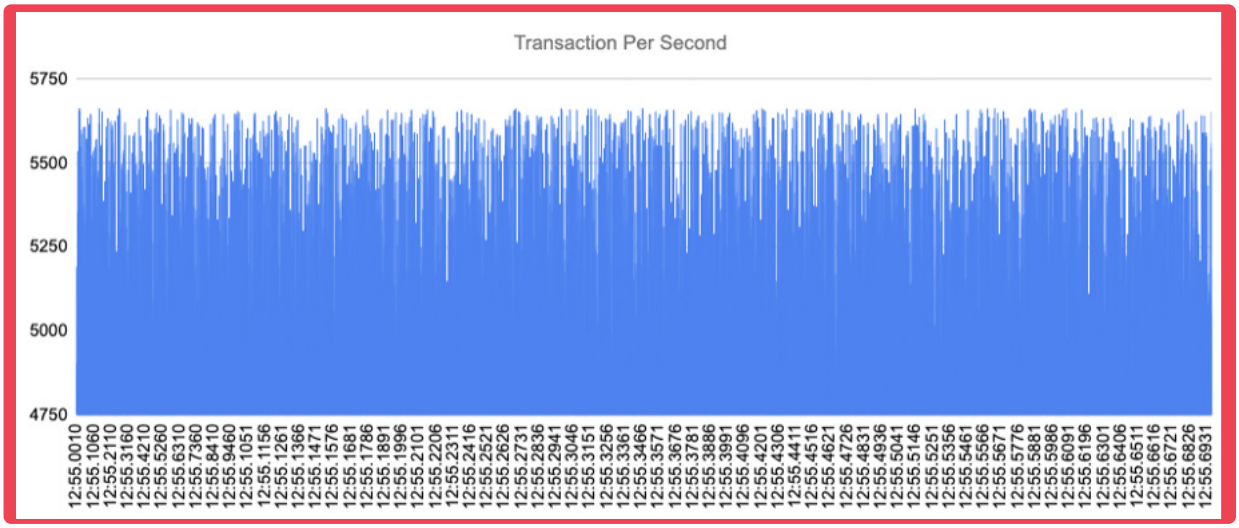
Option 1



Option 2



Option 3



Conclusion

The results of the three different options show that, when the system configurations are increased, system responses nearly in a linear fashion. That means, all the system components are designed well structured and in high load there will be no bottleneck on the system.