

Performance report:

A test plan was designed using Jmeter to measure the system performance under different parameters. The main settings in each test were:

- 1- Number of users, which is the number of threads where each thread simulates a client connection to server, and then a read or write operation.
- 2- Number of launched KV servers.
- 3- The ramp-up time which is the interval of the starting all the clients.

Test Steps:

- 1- Setup test environment, which was by launching ECS with fixed number of servers.
- 2- Executing parallel write operations simulating different users.
- 3- Executing the same number of concurrent read operations using the same key set that was put in (2).
- 4- Shutting down ECS.

Test Environment:

The test was conducted deploying all the components on the same machine, the test machine capabilities: Processor: Intel(R) Core(TM) i5-3210M CPU @ 2.50GHz (4 CPUs) , Memory: 8192MB

Measured readings:

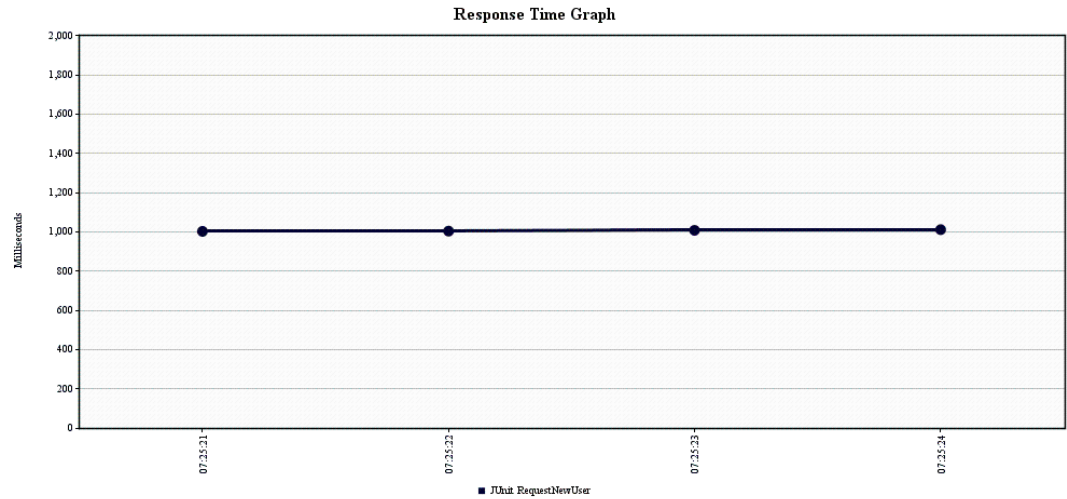
The measured readings are the standard Jmeter readings which is detailed in:

<http://jmeter.apache.org/usermanual/glossary.html>

Test case1: (100 client, 1 server, 4 s ramp-up time)

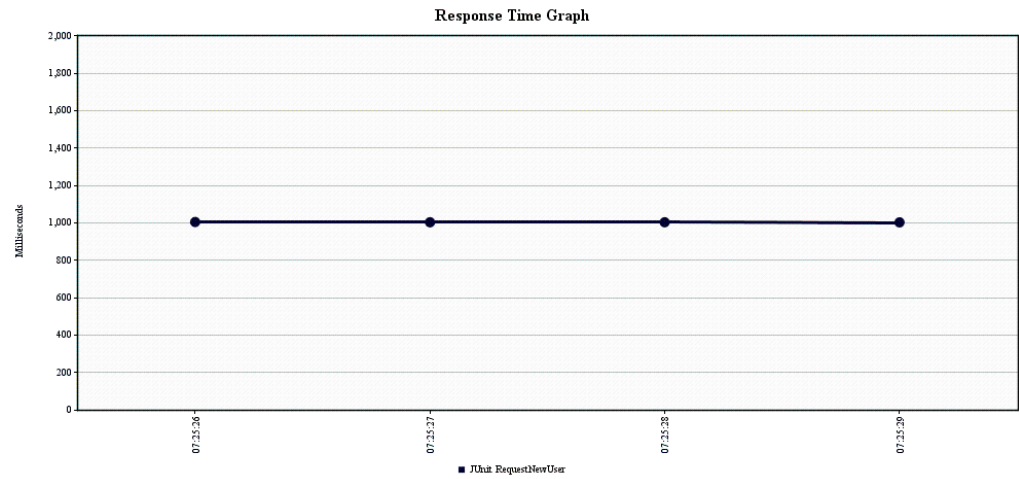
Write

| sampler_label | count | average | min | max | error% | Throughput/sec |
|---------------|-------|---------|-----|------|--------|----------------|
| TOTAL | 100 | 1006 | 993 | 1092 | 0 | 20.10858637 |



Read

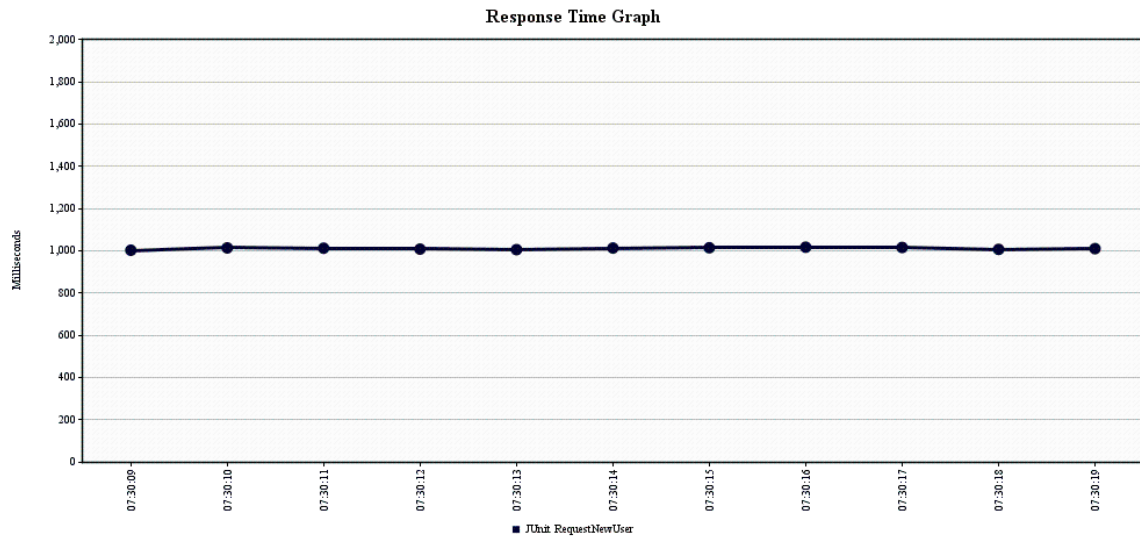
| sampler_label | count | average | min | max | error% | Throughput/sec |
|---------------|-------|---------|-----|------|--------|----------------|
| TOTAL | 100 | 1002 | 993 | 1013 | 0 | 20.14099 |



Test case2: (500 client, 5 server, 10 s ramp-up time)

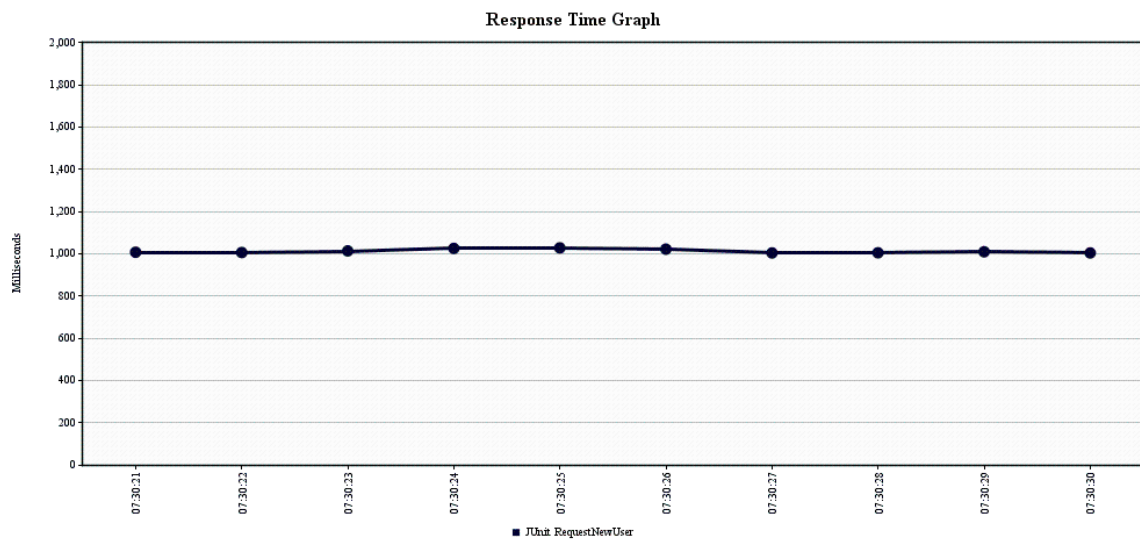
Write

| sampler_label | count | average | min | max | error% | Throughput/sec |
|---------------|-------|---------|-----|------|--------|------------------|
| TOTAL | 500 | 1010 | 995 | 1098 | 0 | 45.1589595375722 |



Read

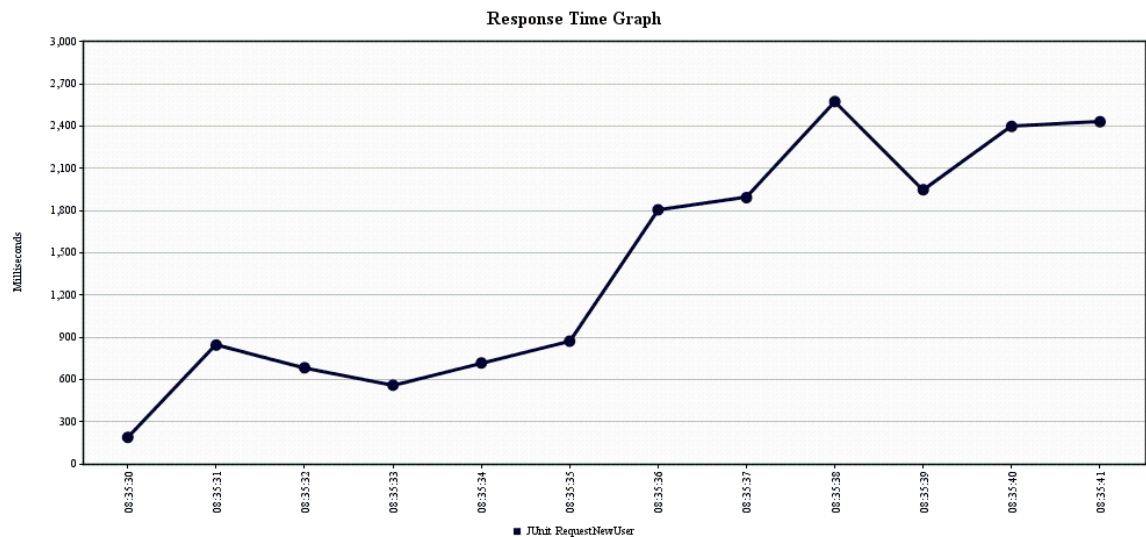
| sampler_label | count | average | min | max | error% | Throughput/sec |
|---------------|-------|---------|-----|------|--------|----------------|
| TOTAL | 500 | 1011 | 993 | 1126 | 0 | 45.06534 |



Test case3: (1000 client, 10 server, 20 s ramp-up time)

Write

| sampler_label | count | average | min | max | error% | Throughput/sec |
|---------------|-------|---------|-----|------|--------|----------------|
| TOTAL | 1000 | 1519 | 4 | 7906 | 0 | 70.32348805 |



Read

| sampler_label | count | average | min | max | error% | Throughput/sec |
|---------------|-------|---------|-----|-------|--------|----------------|
| TOTAL | 1000 | 5790 | 11 | 11245 | 0 | 60.94959469 |

