

Performance Test Report

For

Execution of

Kernel Cryptomanager – 1000 users

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Summary

This report presents the observations and findings of the load test conducted for a load of 1000 users on decrypt request of kernel cryptomanager-service

The objective of this load test was to observe and record behavior of the application when users have been ramped up from 600 to 1000 in steps of 100.

Below are the scenario details:

Script/Report Name	Kernel Crypto Service – decrypt API
Run Date	05-March-2020
Period	18:11 UTC to 20:30 UTC
Number of concurrent users	600 to 1000
Ramp up	01 users per second
Run Duration	140 minutes
Ramp down	NA

The transaction response times observed were as below:

Label	# Samples	Average(ms)	90% Line(ms)	Min(ms)	Max(ms)	Error %	Throughput
TR_regproc_decrypt	453125	15426	23551	9	76573	9.79%	53.84926

Performance Test Execution Details

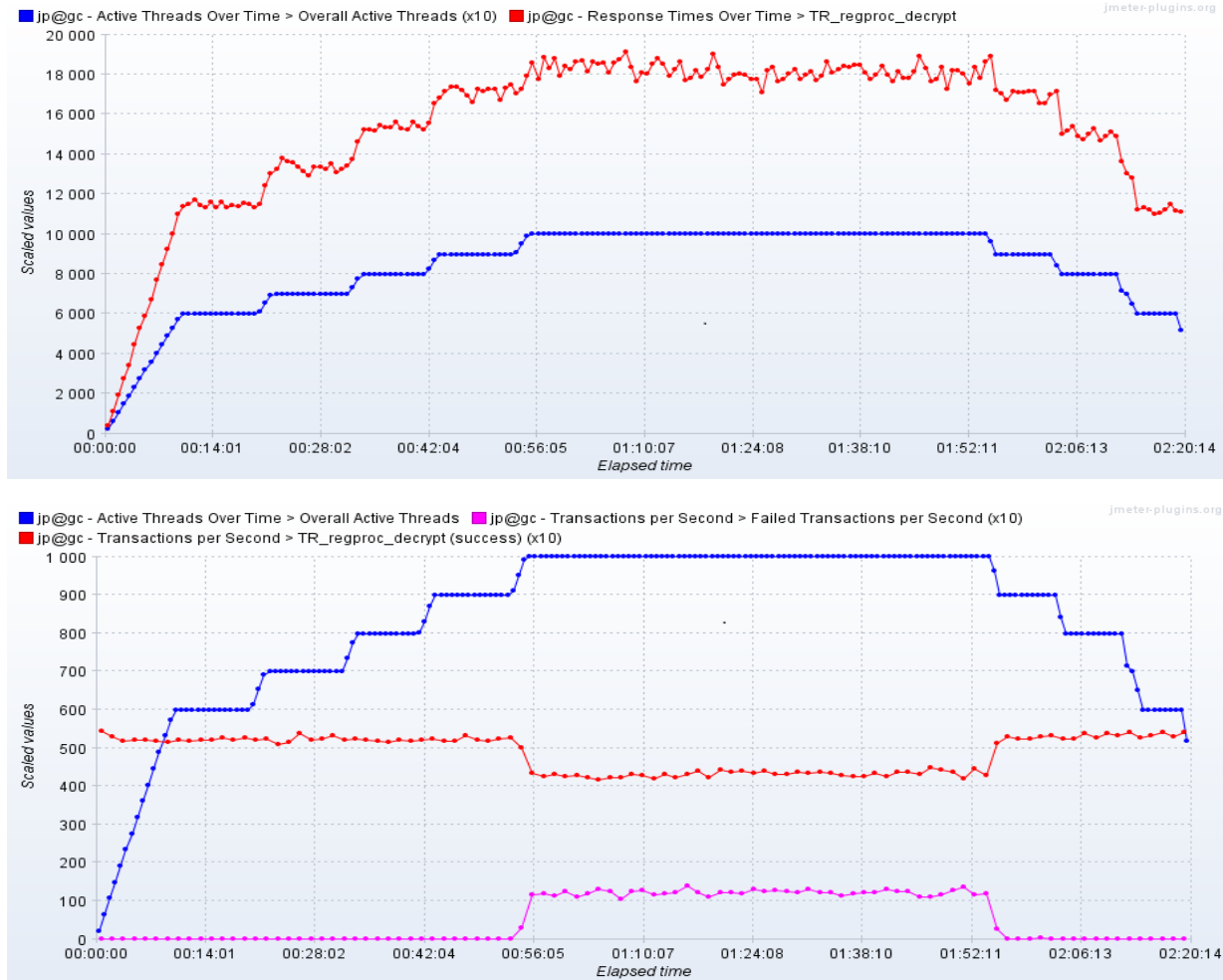
We have executed JMeter script for kernel cryptomanager decrypt service, which has transactions mentioned in the above table.

Average response time of UIN generation request is 15.4 seconds.

More than 9% requests have failed due to error from key manager and auth manager services.



Response Time and TPS Graph:



As seen in the graph, response time of the decrypt API increases with increase in the number of users.

Throughput (TPS) of the API remains at ~52 for users from 600 to 900 and it drops to 42 when 1000 users are active. Drop in the TPS is in relation to the rate of failing requests which has increased when 1000 users are active.



Resource Usage Pattern:

Resource usage metrics has been collected for cryptomanager cluster and keymanager using Prometheus and Grafana, as seen in the below graphs:

Cryptomanager Cluster:

Number of cores : 4

Total Available RAM: 16 GB

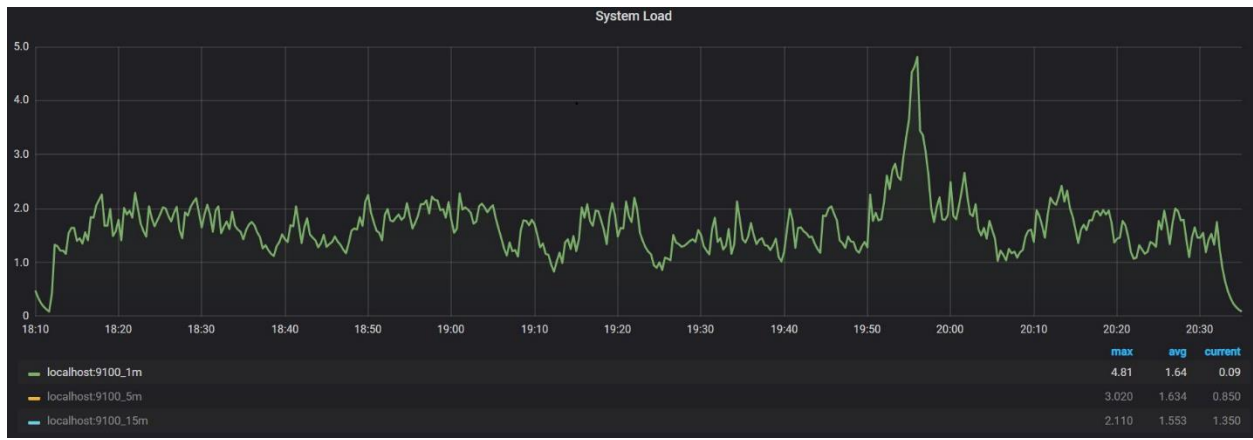


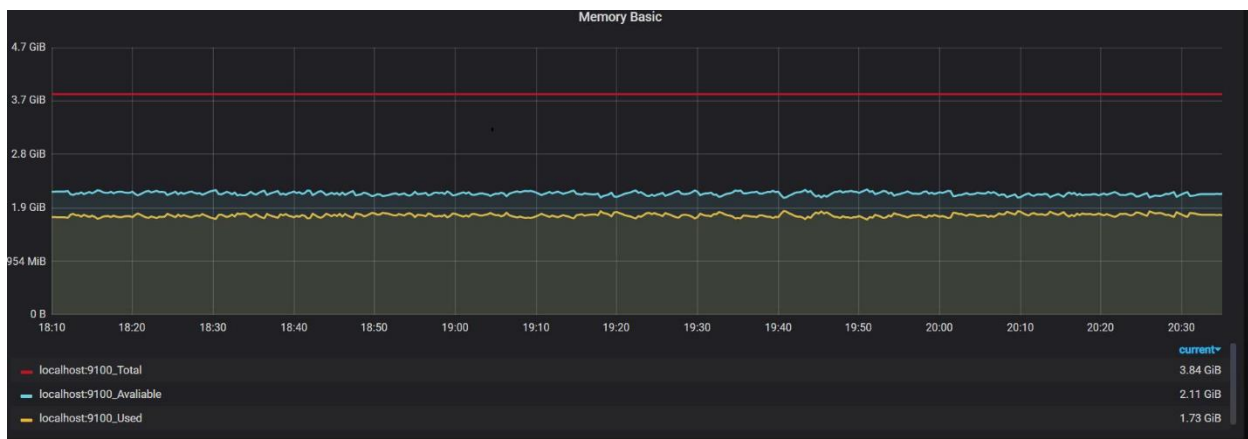


Keymanager VM:

Number of cores : 2

Total Available RAM: 04 GB





Some Error Responses

```
{
```

```
  "id": "string",
```

```
  "version": "1.0",
```

```
  "responsetime": "2020-03-06T20:15:01.440Z",
```

```
  "metadata": null,
```

```
  "response": null,
```

```
  "errors": [
```

```
    {
```

```
      "errorCode": "KER-ATH-401",
```

```
      "message": "Authentication Failed"
```

```
}  
}  
}
```

Response 2:

```
{  
  "id": "string",  
  "version": "1.0",  
  "responsetime": "2020-03-06T20:12:40.652Z",  
  "metadata": null,  
  "response": null,  
  "errors": [  
    {  
      "errorCode": "KER-CRY-006",  
      "message": "Keymanager Service has replied with following error <html>\r\n<head><title>500 Internal  
Server Error</title></head>\r\n<body>\r\n<center><h1>500 Internal Server  
Error</h1></center>\r\n<hr><center>nginx/1.17.6</center>\r\n</body>\r\n</html>\r\n"  
    }  
  ]  
}
```

Conclusion and Next Steps:

We will repeat the test for 1000 users and observe the behavior. The erroneous responses obtained during the load test will be shared with the developer team for further analysis.