Performance Test Report

For

Execution of

OTP-Manager APIs – 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 generate OTP and validate OTP APIs of kernel OTP manager.

The objective of this load test was to observe and record behavior of the application when DB connection pool size is updated to 300 from previous 100. Users have been ramped up from 0 to 1000 step by step. Users were ramped up to 500 in first 250 seconds. Then ramp up happened from 500 to 1000 after a step pause of 900 seconds.

Previously, an execution was done with 100 pool size. Behavior is again recorded when DB connection pool size is set to 300.

Below are the scenario details:

Script/Report Name	Kernel OTP Manager
Run Date	24-March-2020
Period	09:32 UTC to 10:51 UTC
Number of concurrent users	0 to 500 to 1000
Ramp up	02 users per second
Run Duration	60 minutes peak load
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_Generate_OTP	569462	2663	3547	10	180128	0.10%	119.36
TR_validate_OTP	568395	2664	3546	11	180126	0.10%	119.1793
TOTAL	1137857	2664	3546	10	180128	0.10%	238.4964

Performance Test Execution Details

We have executed JMeter script for kernel OTP-manager service, which has transactions mentioned in the above table.

Average response time of the APIs is 2.6 seconds with below 1% error rate. Errors have appeared due to failing authentication requests.

Response Time and TPS Graph:
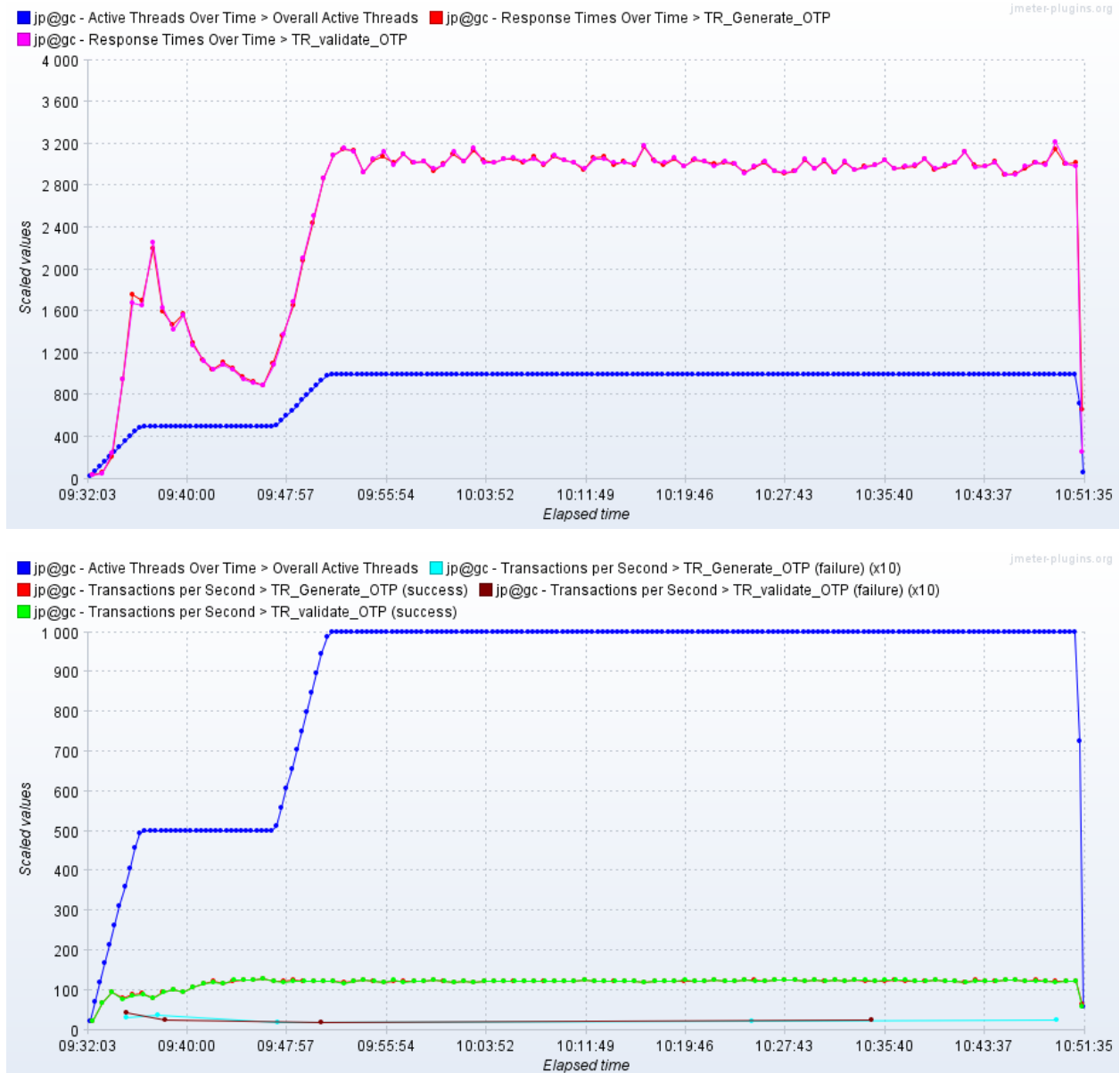
As seen in the graph, response time of the APIs is 1.0 seconds for 500 users and it increases to ~3.2 seconds when 1000 users are there.

Average response time when DB connection pool size was 100, was ~6.2 seconds.

Throughput (TPS) of the APIs approxes 120 for both 500 users load and 1000 users load.
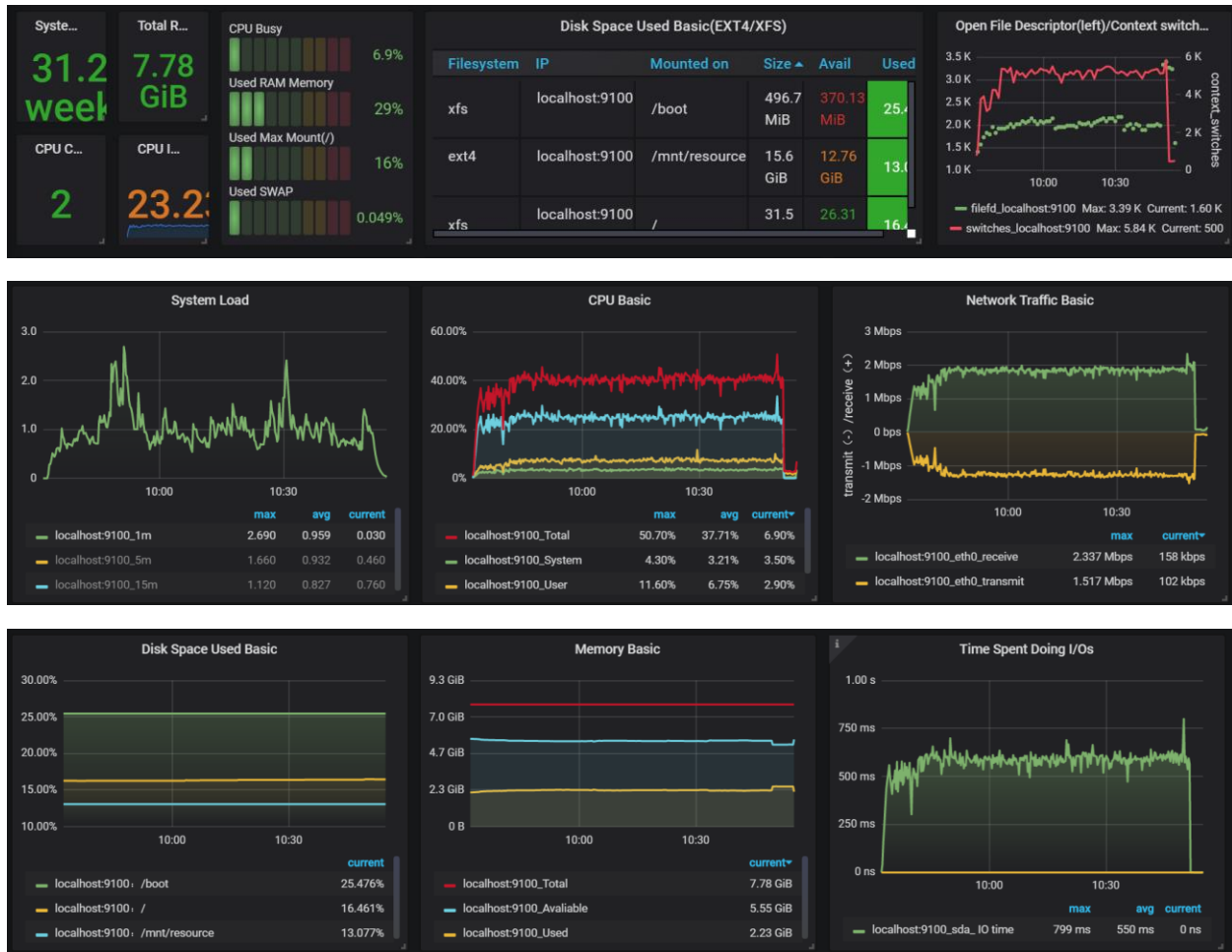
Think time used is 1 sec (1000 ms).

Resource Usage Pattern:

Kernel cluster resource usage:

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Kernel DB resource usage:

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Glowroot Metrics:

Below is the screenshot of one trace entry which shows authmanager validate token API failing

Trace entries (1)

```
http client request: GET https://preprod.mosip.io/v1/authmanager/authorize/admin/validateToken
        java.net.SocketException: Connection timed out (Read failed)
            exception
```

Profile (673)   View flame graph ☑

Below screenshot shows the time taken by SQL queries which is max 4 ms

Response time	Slow traces (16,034)	Queries	Service calls	Thread profile

	Total time ▾ (ms)	Total count	Avg time (ms)	Avg rows
select otpentity0_.id as id1_0_0_, otpentity0_.cr_dtimes as cr_dtime2_0_0_, otp...	6,543,216.7	1,706,105	3.8	0.3
update kernel.otp_transaction set validation_retry_count=?, upd_dtimes=? where ...	1,724,819.3	568,011	3.0	1.0
insert into kernel.otp_transaction (cr_dtimes, cr_by, del_dtimes, expiry_dtimes...	1,709,775.8	569,043	3.0	1.0
delete from kernel.otp_transaction where id=?	1,702,659.1	568,011	3.0	1.0
update kernel.otp_transaction set cr_dtimes=?, cr_by=?, del_dtimes=?, expiry_dt...	6.7	8	0.84	1.0