Mindtree

Performance Test Report

For

Execution of

Kernel Send OTP and User OTP APIs – 300 users

Date: 21 Apr 2020

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Summary

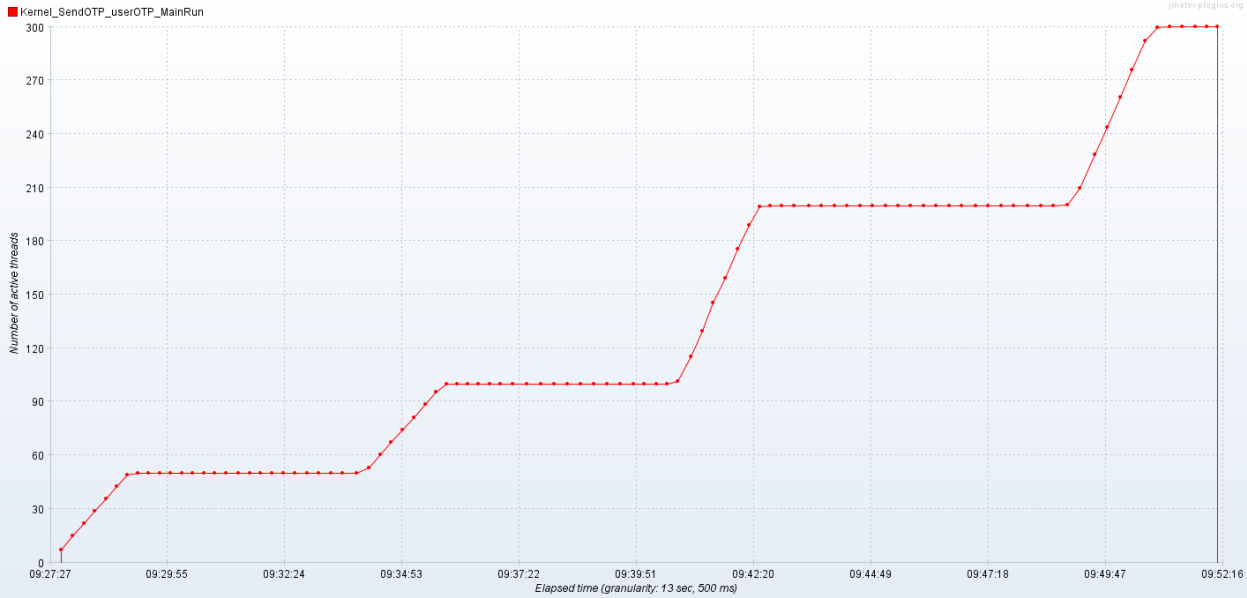
This report presents the observations and findings of the load test conducted for a load of 300 concurrent users for send OTP and User id OTP API's of kernel auth manager

The objective of this load test was to observe and record the behavior of the application when users are calling send OTP and User id OTP API's of kernel auth manager

Below are the scenario details:

Script/Report Name	Kernel Auth Manager (Send OTP and UserId OTP)
Run Date	21-Apr-2019
Period	09:27 to 09:53 AM (UTC)
Number of concurrent users	300
Ramp up	See in below ramp up pattern picture
Run Duration	24 min (Aborted due to errors)

Ramp up profile:



The transaction response times observed were as below:

Label	# Samples	Average (ms)	90% Line (ms)	Min (ms)	Max (ms)	Error %	Throughput (sec)
TR_kernel_prereg_sendotp	9547	16738	30017	291	30058	42.31%	6.41299
TR_kernel_prereg_userid_otp	5508	3722	8609	169	30025	0.55%	5.58992

Performance Test Execution Details

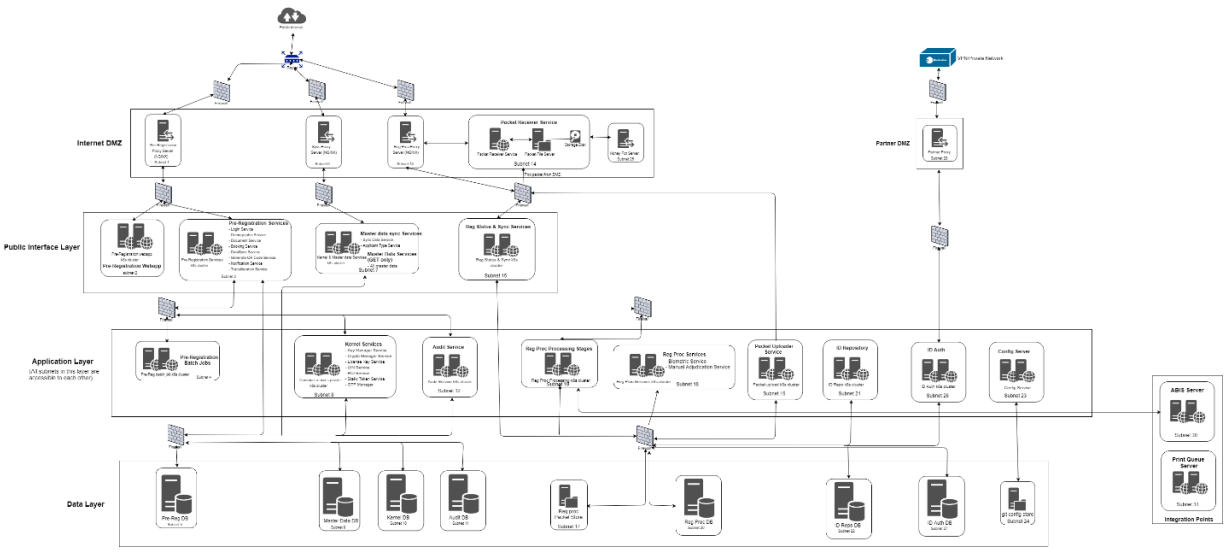
Both APIs transactions average response times were more than 3sec mentioned below:

1. TR_kernel_prereg_sendotp - 16.738 sec

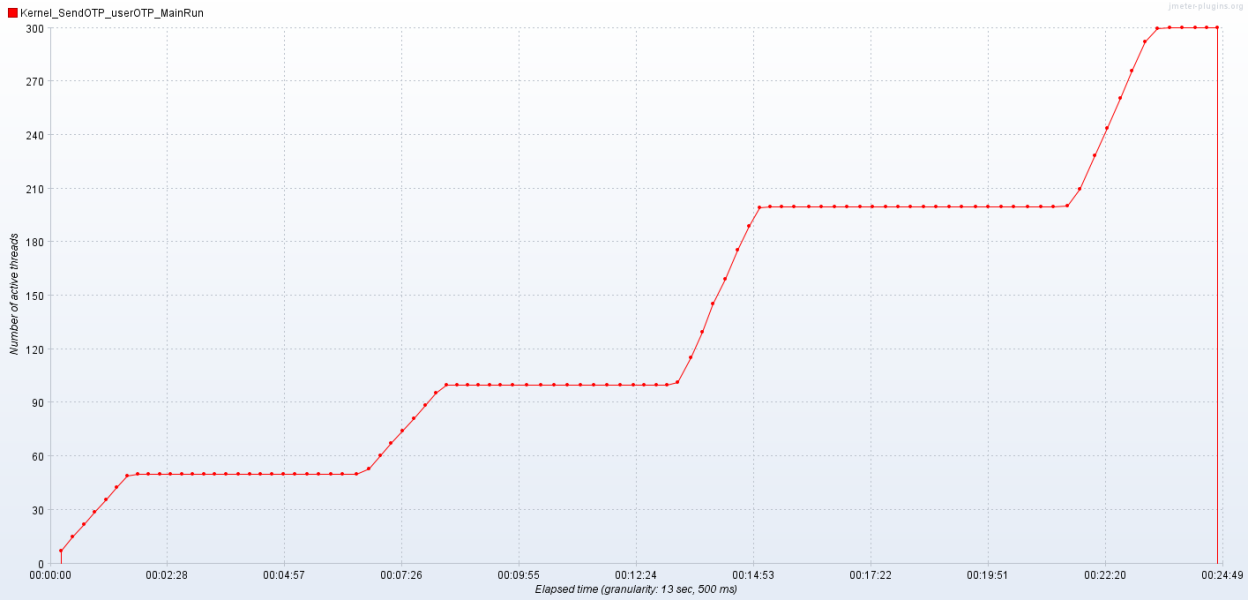
The error rate for below transactions are more than 1%:

Transactions	Error %
TR_kernel_prereg_sendotp	42.31%

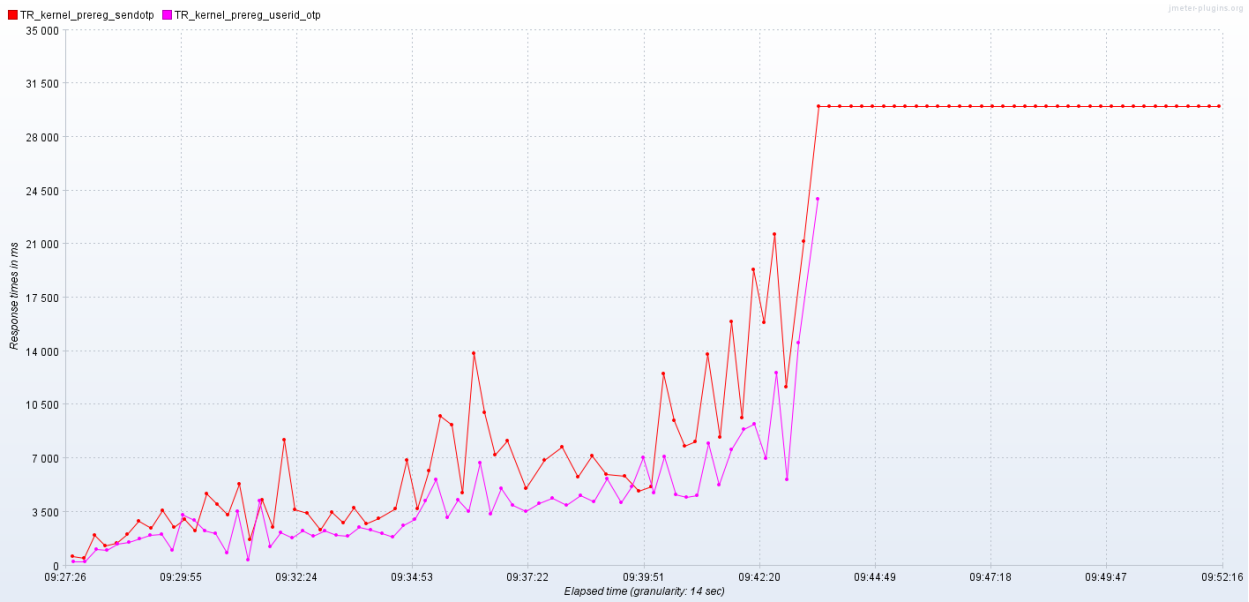
Test Environment : we are using scale-down version of below Architecture



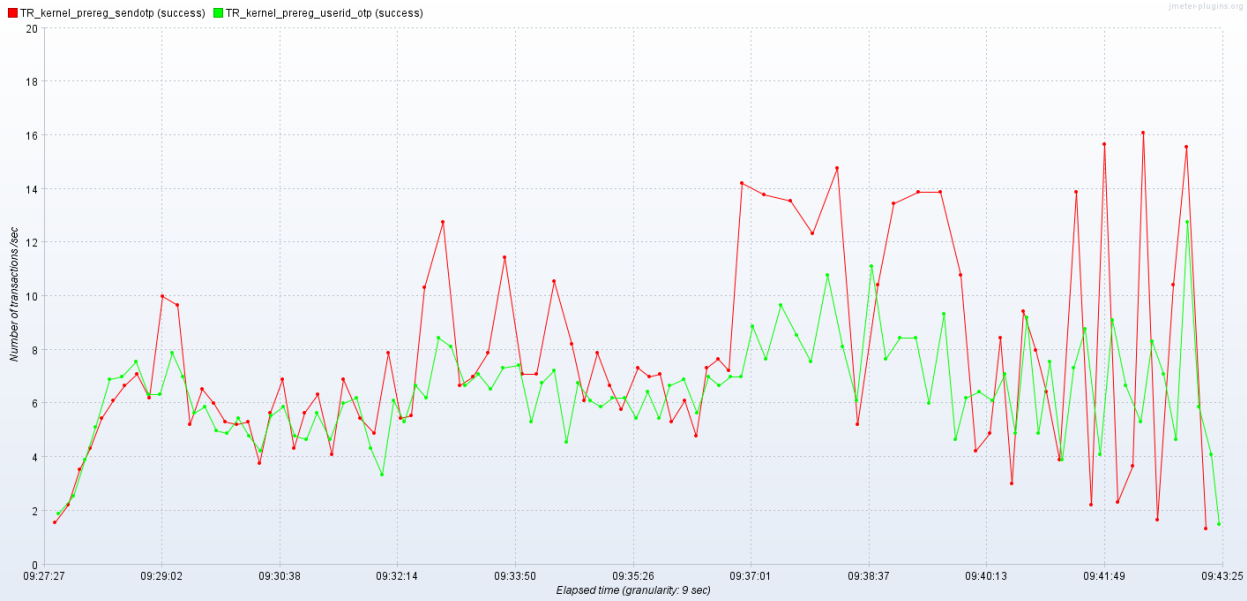
Active threads over Time:



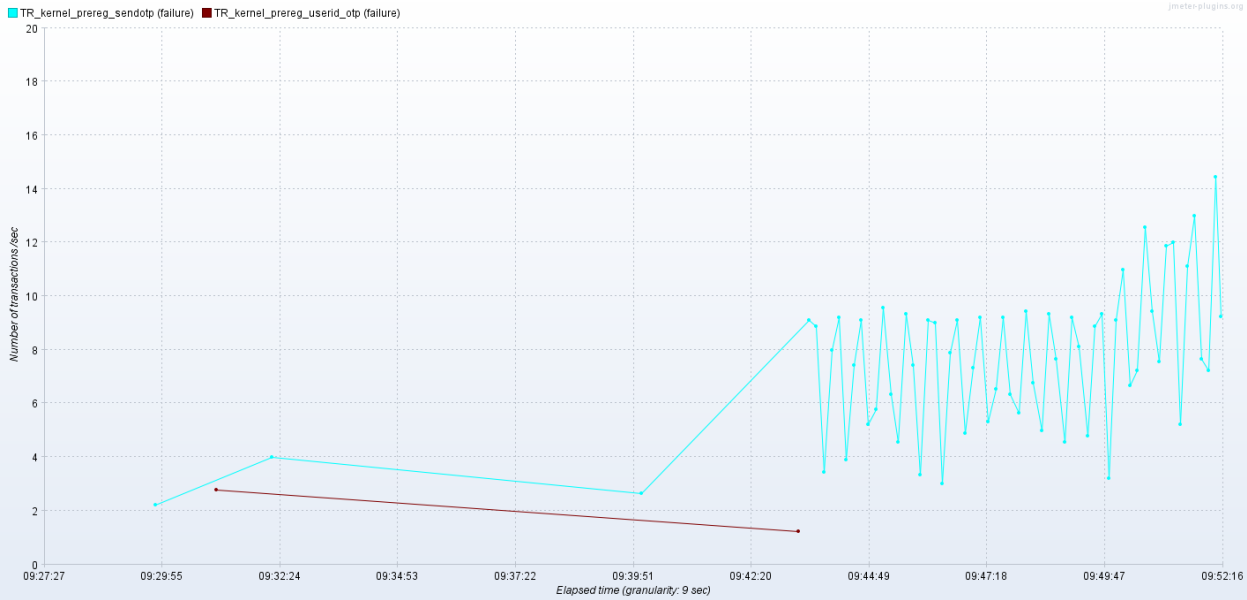
Response Time Graph



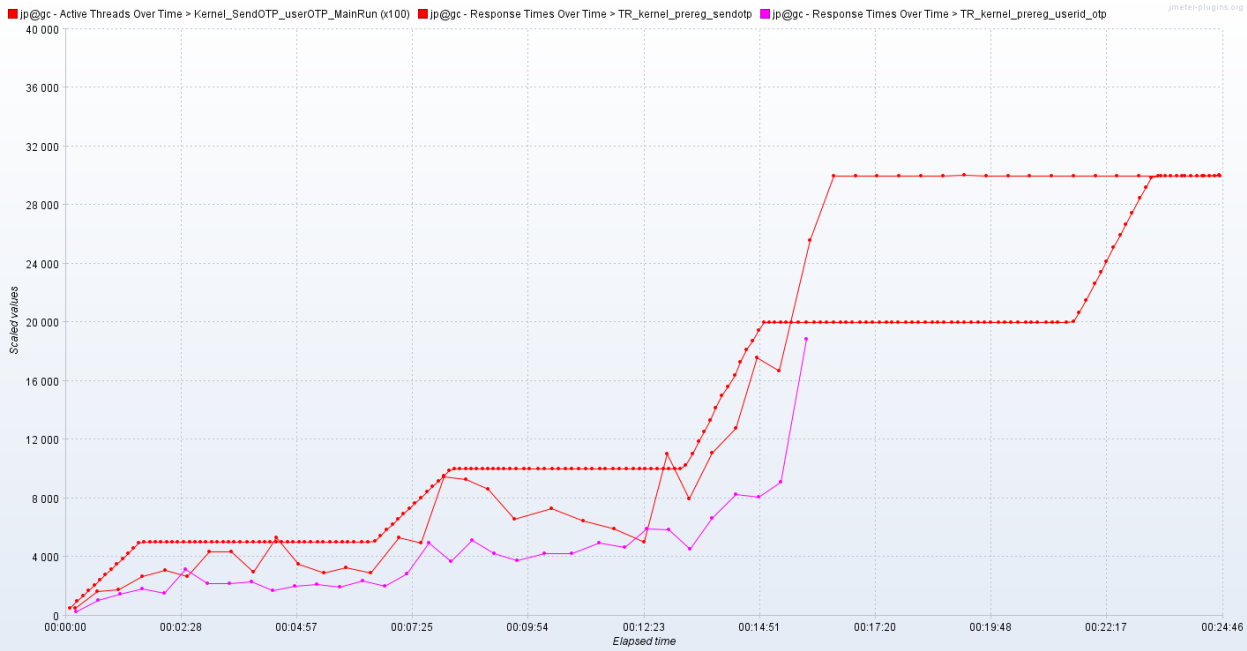
Transactions per second: (success)



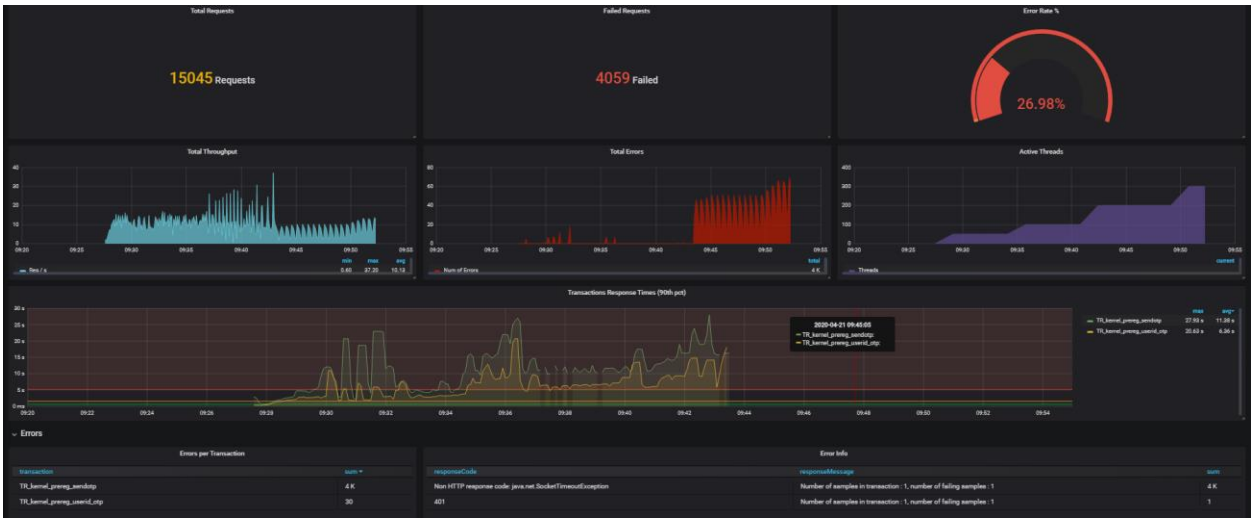
Transactions per second: (failure)



Active threads vs response times over time:



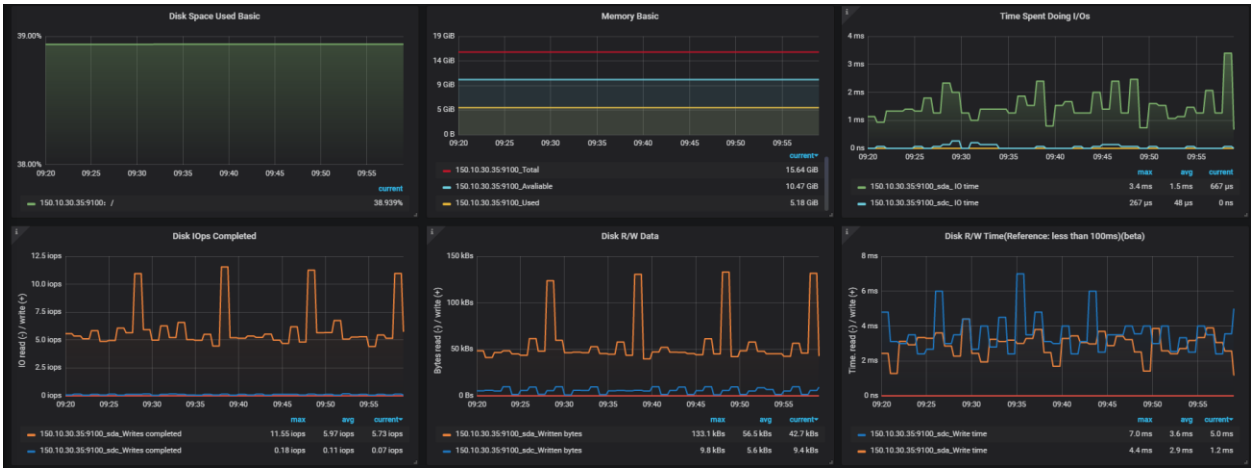
JMeter graph:



Kernel cluster node 0 monitoring:

Observations:

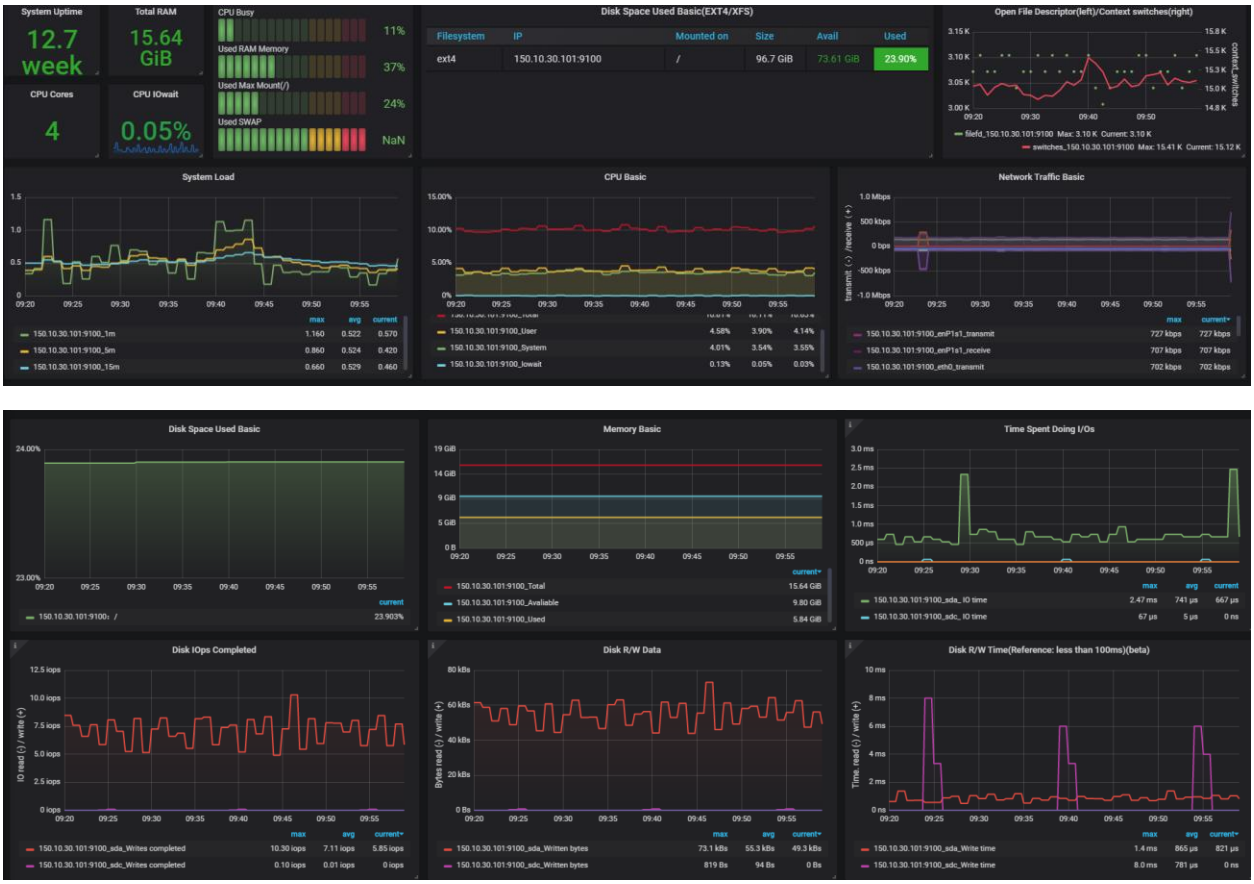
- Max Total CPU basic is 10.15% and Avg is 9.46%
- Max used memory is 5.18 Gib out of 15.64 Gib
- Max System load (1m) is 0.930 and avg is 0.421



Kernel cluster node 1 monitoring:

Observations:

- Max Total CPU basic is 10.81% and Avg is 10.11%
- Max used memory is 5.84 Gib out of 15.64 Gib
- Max System load (1m) is 1.160 and avg is 0.52



Kernel DB node monitoring: (2core vcpu ,7.78 gib)

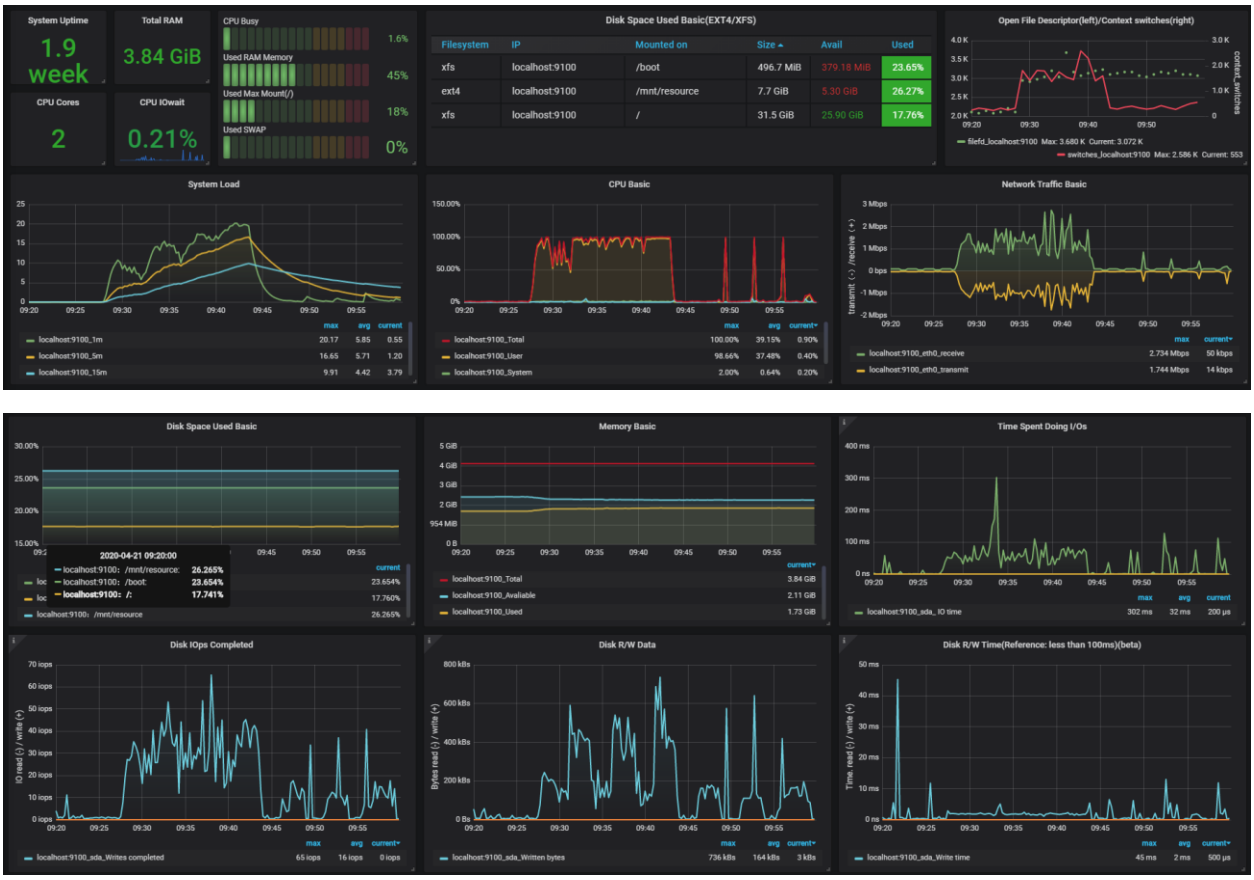
Observations:

- Max Total CPU basic is 100% and Avg is 26.93%
- Max used memory is 966 Mib out of 7.78 Gib
- Max System load (1m) is 22.79 and avg is 5.29

KeyCloak node monitoring: (2 core vcpu ,3.84 Gib RAM)

Observations:

- Max Total CPU basic is 100% and Avg is 39.93%
- Max used memory is 1.73 Gib out of 3.84 Gib
- Max System load (1m) is 22.79 and avg is 5.29



Glow Root Graphs:

kernel-auth-service | Web

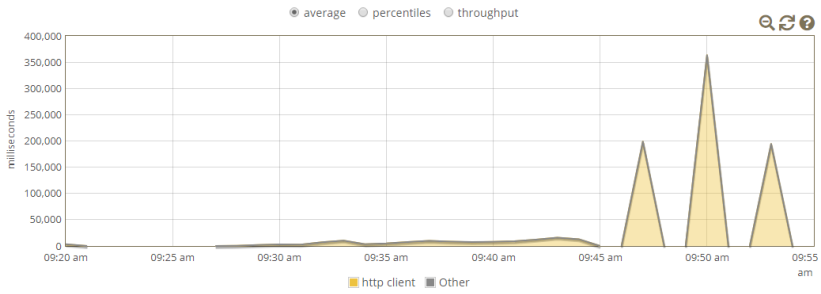
4/21/2020, 9:20 AM to 9:55 AM

By percent of total time

All Web Transactions	100.0 %
/v1/authmanager/authenticate/sendotp	78.5 %
/v1/authmanager/authenticate/useridOTP	11.9 %
/v1/authmanager/authorize/admin/validateToken	9.6 %

/v1/authmanager/authenticate/sendotp

Response time | Slow traces (4,445) | Queries | Service calls | Thread profile



Breakdown (Main Thread):	total (ms)	count
http request	24,847.5	1.0
http client	24,832.0	15.7

switch to tree view

Breakdown (Auxiliary Thread):	total (ms)	count
auxiliary thread	0.72	0.4

switch to tree view

/v1/authmanager/authenticate/sendotp

Response time | Slow traces (4,445) | Queries | Service calls | Thread profile

	Total time (ms)	Total count	Avg time (ms)
POST http://150.10.30.98/v1/otpmanager/otp/generate	59,392,252.5	5,928	10,018.9
GET http://52.172.40.163/v1/masterdata/templates/eng/auth-otp-email-subject-template	31,579,593.8	5,738	5,503.6
POST https://mosipkeycloakpp.southindia.cloudapp.azure.com/auth/admin/realms/mosip/users/b7ff9db7-bf6b-4719-bb7f-25216ea1f347/role-mappings/realm	6,959.1	2	3,479.5
POST https://mosipkeycloakpp.southindia.cloudapp.azure.com/auth/admin/realms/mosip/users/07e45894-7a98-4efc-8c0c-9cb46abdb7c9/role-mappings/realm	6,921.1	2	3,460.6

kernel-otpmanager-service | Web

4/21/2020, 9:20 AM to 9:55 AM

By percent of total time

All Web Transactions	100.0 %
/v1/otpmanager/otp/generate	92.1 %
/v1/otpmanager/otp/validate	7.9 %

All Web Transactions

Response time | Slow traces (1,220) | Queries | Service calls | Thread profile

	Total time (ms)	Total count	Avg time (ms)
GET https://preprod.mosip.io/v1/authmanager/authorize/admin/validateToken	63,926,285.2	22,854	2,797.2

Conclusion and Next Steps:

When concurrent users reached 100 , We started observed huge count of read time out errors for kernel send otp API calls and observed high CPU utilizations for Kernel DB and KeyCloak VM's

Raised defect https://mosip.atlassian.net/browse/MOSIP-818 and we will follow up issue with dev team and retest once issue is resolved