

# **Performance Test Report**

## **For**

### **Execution of**

#### **PreRegistration module – 500 users**

Date: 21st Nov 2019

Author: Anand Babaleshwar

#### **Summary**

This report presents the observations and findings of the load test conducted for a load of 500 users performing all identified scenarios planned for 1-hour duration

The objective of this consistency load test was to observe and record the behavior of the application when users are performing key scenarios

Below are the scenario details:

**Identified Key scenarios:**

- 1) MOSIP\_PT\_PreReg\_UI\_BookingfullFlow
- 2) MOSIP\_PT\_PreReg\_UI\_EditDemographicDetail
- 3) MOSIP\_PT\_PreReg\_UI\_BookingForExistingApplication
- 4) MOSIP\_PT\_Prereg\_UI\_DeletingApplication
- 5) MOSIP\_PreReg\_UI\_CancelAppointment
- 6) MOSIP\_PT\_UI\_ViewAcknowledgment
- 7) MOSIP\_PT\_PreReg\_UI\_Rebooking

<b>Run Date</b>	21-Nov-2019
<b>Period</b>	10:45 AM to 11:52 AM (UTC)
<b>Number of concurrent users</b>	500
<b>Ramp up</b>	4 min
<b>Run Duration</b>	60 minutes
<b>Ramp down</b>	4min

The transaction response times observed were as below:

Label	# Samples	Average (ms)	90% Line (ms)	Min (ms)	Max (ms)	Error %	Throughput (sec)
TR_prereg_homepage	16704	125	275	54	3135	0.00%	4.22268
TR_prereg_sendotp	16662	172	213	77	20693	0.00%	4.21515
TR_prereg_validateotp	16627	188	242	72	2816	0.00%	4.21166
TR_prereg_viewbasicdetails	16618	28871	36977	273	71675	0.26%	4.21136
TR_prereg_openbooking	6100	10665	18042	177	56048	0.00%	1.54741
TR_prereg_searchregcenter	10282	57	142	15	3053	0.00%	2.61016
TR_prereg_cancelappointment	3419	12557	43036	29	93826	0.45%	0.86881
TR_prereg_deleteapplication	3373	11162	18294	71	36704	0.00%	0.85714
TR_prereg_Viewacknowledgement	5157	47	49	23	440	0.70%	1.31322
TR_prereg_submitdemographic	1769	14808	22573	402	39283	0.00%	0.44976
TR_prereg_updatedemographics	6080	27838	49945	130	90222	0.00%	1.54503
TR_prereglogout	15763	203	336	99	4993	0.00%	4.00222
TR_prereg_uploadpoidocument	2787	286	371	17	2245	0.07%	0.71149
TR_prereg_uploadpoadocument	2782	211	287	104	4622	0.00%	0.71026
TR_prereg_openbookappointmentpage	5110	10912	40733	42	101206	0.04%	1.30207
TR_prereg_bookappointment	5087	79906	147282	267	180079	5.86%	1.29567
TR_prereg_notify	4656	32696	51045	293	180031	1.01%	1.17759

## **Performance Test Execution Details**

We have executed including key 7 scenarios mentioned above which has transactions mentioned in above table.

All the transactions average response times were less than 3sec except below:

1. TR\_prereg\_viewbasicdetails - **28.871** sec
2. TR\_prereg\_openbooking - **10.665** sec
3. TR\_prereg\_cancelappointment - **12.557** sec
4. TR\_prereg\_deleteapplication - **11.162** sec
5. TR\_prereg\_submitdemographic - **14.808** sec
6. TR\_prereg\_updatedemographics - **27.838** sec
7. TR\_prereg\_openbookappointmentpage - **10.912** sec
8. TR\_prereg\_bookappointment - **79.906** sec
9. TR\_prereg\_notify - **32.696** sec

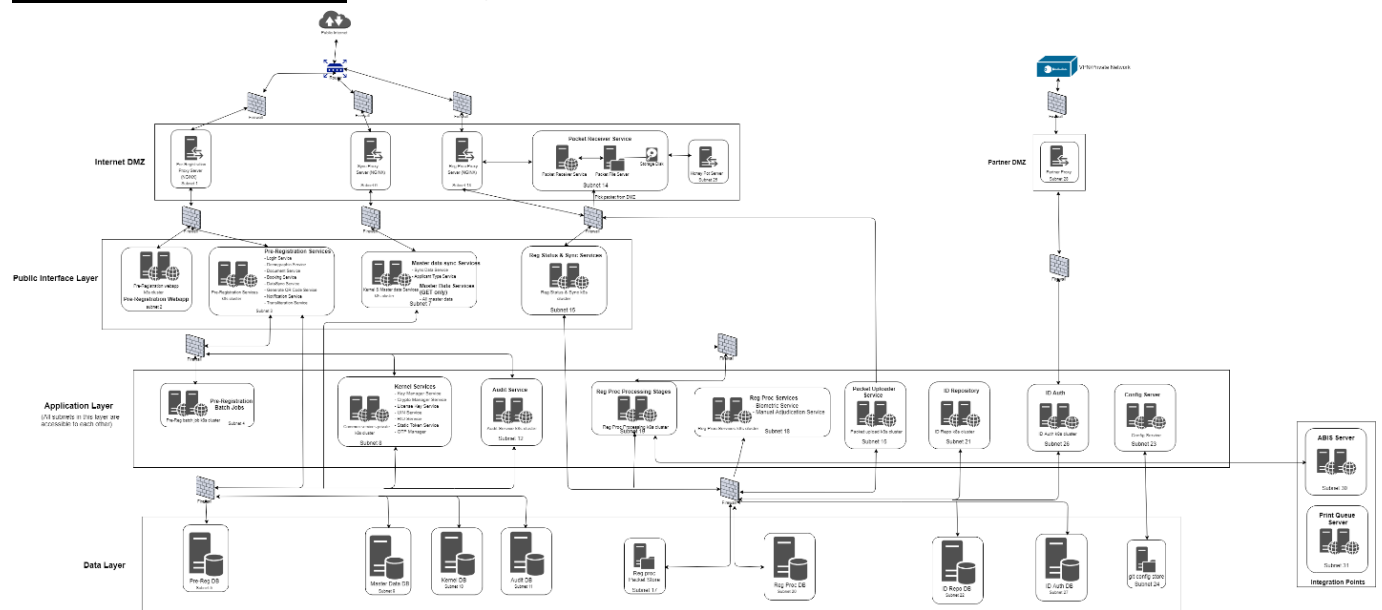
The error rate for all transactions is less than 1% except below request:

1. TR\_prereg\_bookappointment - **5.86%**
2. TR\_prereg\_notify - **1.01%**

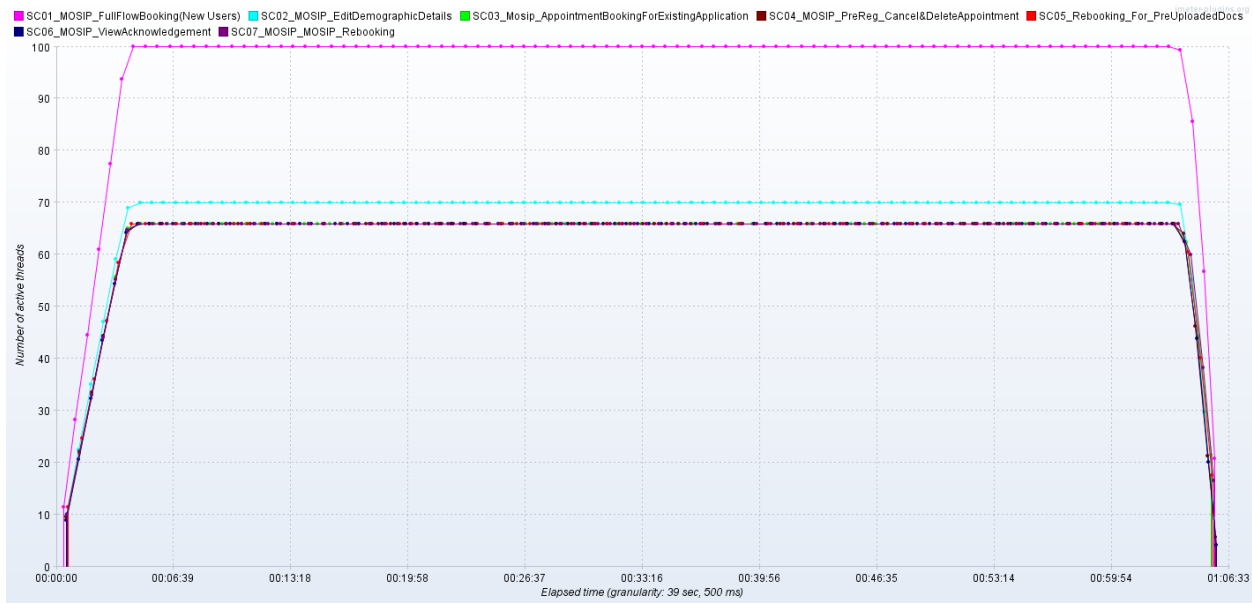
Below are the error messages:

Observed read time out errors for booking service requests and invalid response for notification service requests

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



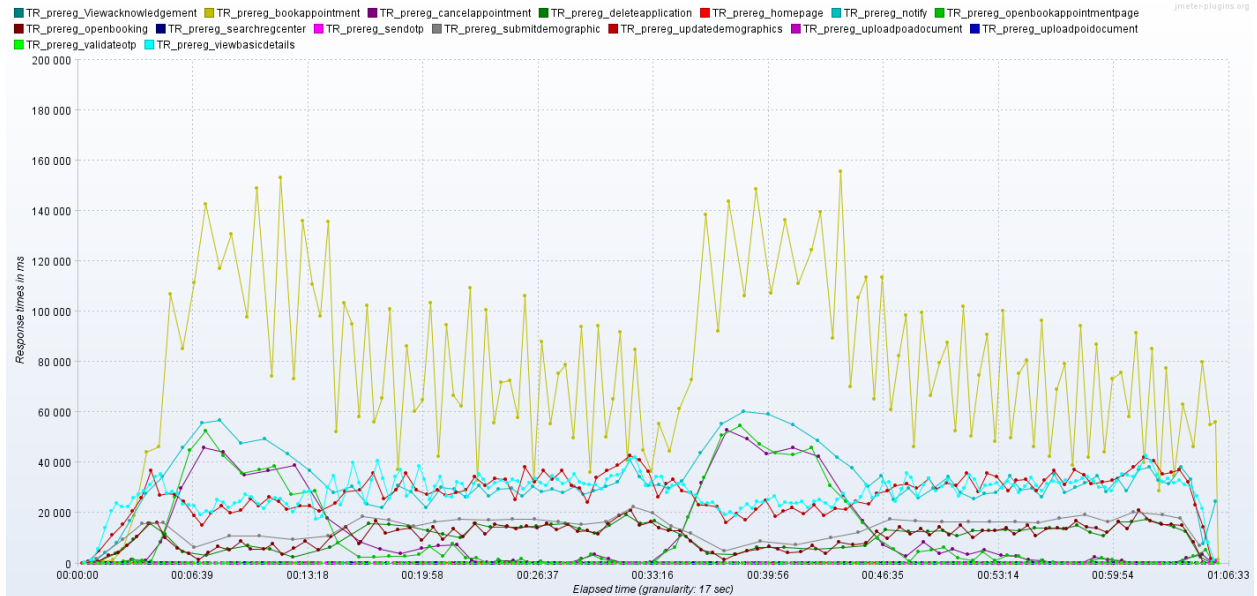
## Active threads over Time:



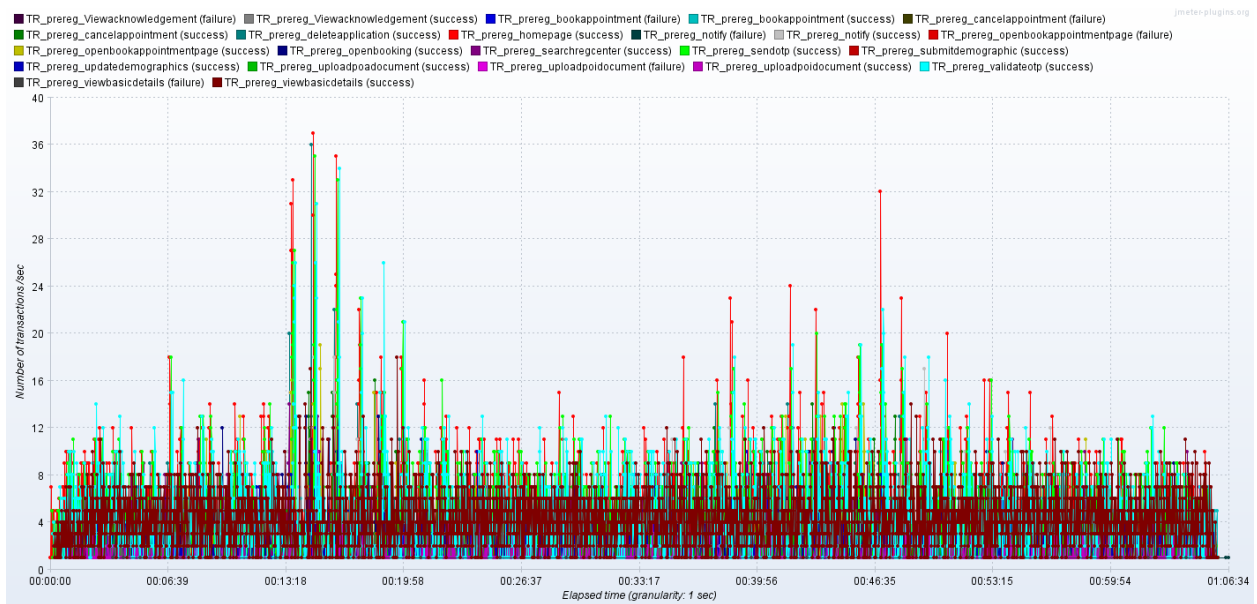
## Response Time Graph

All the transactions average response times were less than 3sec except below:

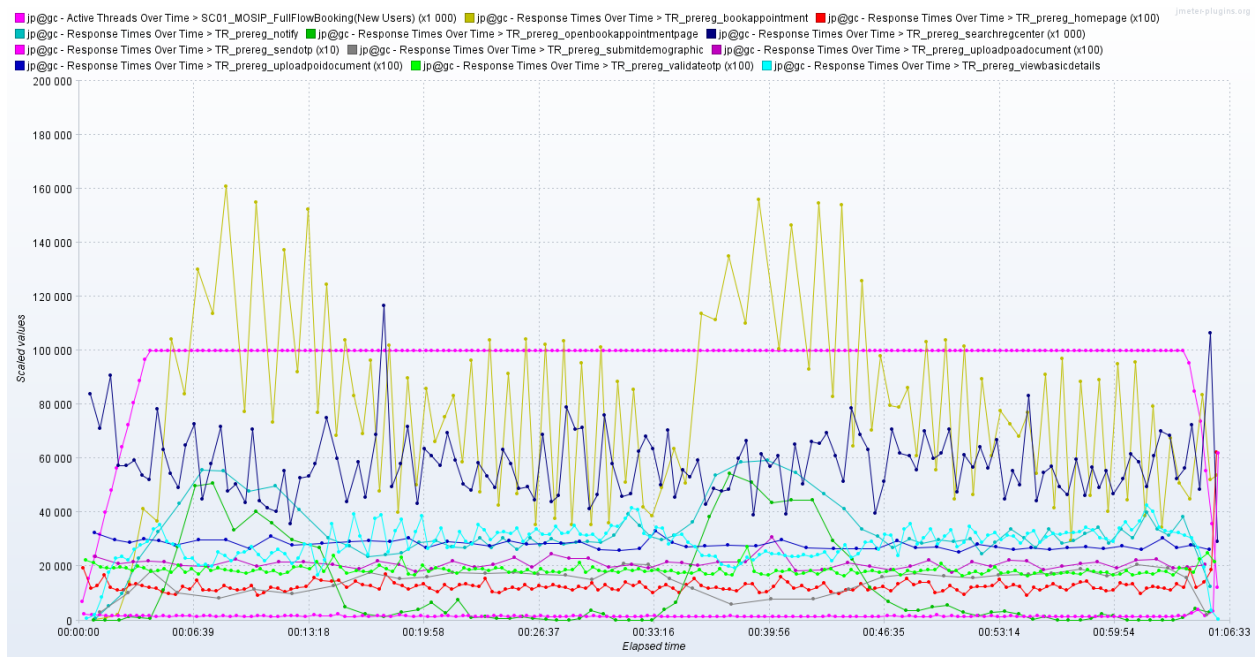
1. TR\_prereg\_viewbasicdetails - **28.871** sec
2. TR\_prereg\_openbooking - **10.665** sec
3. TR\_prereg\_cancelappointment-**12.557** sec
4. TR\_prereg\_deleteapplication- **11.162** sec
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6. TR\_prereg\_updatedemographics -**27.838** sec
7. TR\_prereg\_openbookappointmentpage -**10.912** sec
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9. TR\_prereg\_notify -**32.696** sec



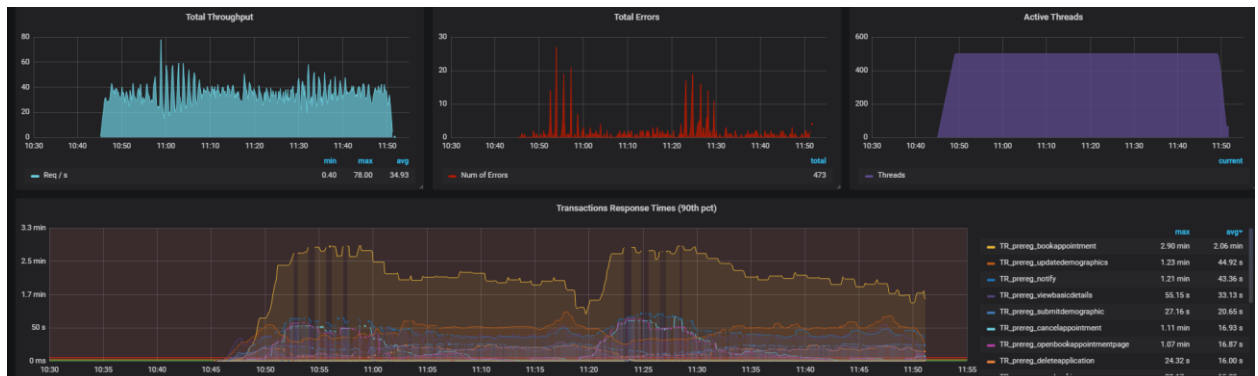
## Transactions per second:



## Active threads vs response times over time:



## Jmeter graph:



## Preregistration cluster node monitoring:

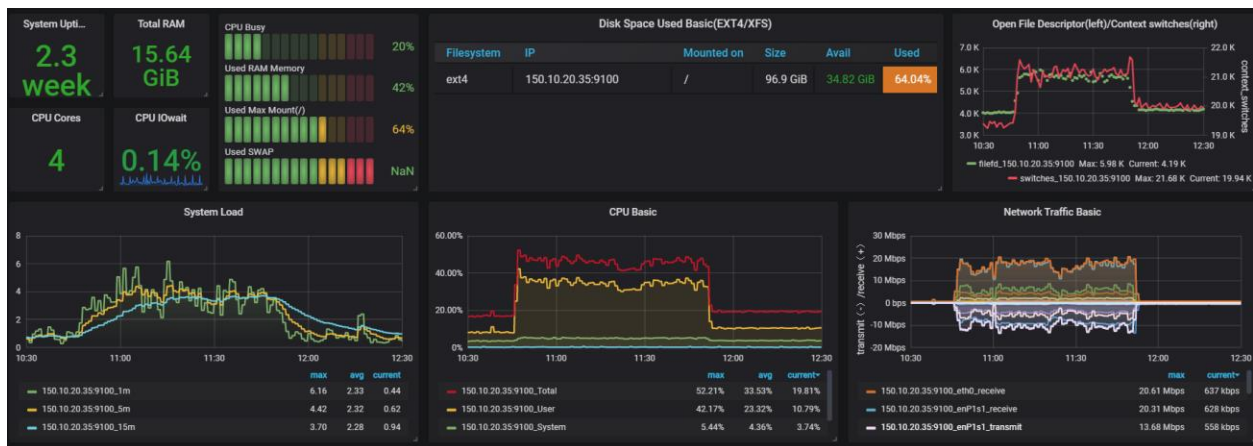
### CPU basic:

	max	avg	current▼
150.10.20.35:9100_Total	52.21%	33.53%	19.81%
150.10.20.35:9100_User	42.17%	23.32%	10.79%
150.10.20.35:9100_System	5.44%	4.36%	3.74%

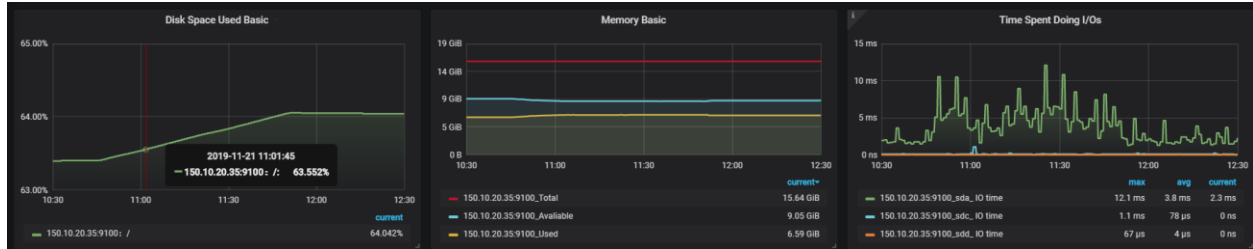
### Memory Basic:

	current▼
150.10.20.35:9100_Total	15.64 GiB
150.10.20.35:9100_Avaliable	9.05 GiB
150.10.20.35:9100_Used	6.59 GiB

### Graphs:







## Preregistration DB node monitoring:

CPU total utilization was above 98% (<https://mosipid.atlassian.net/browse/MOS-30145>)

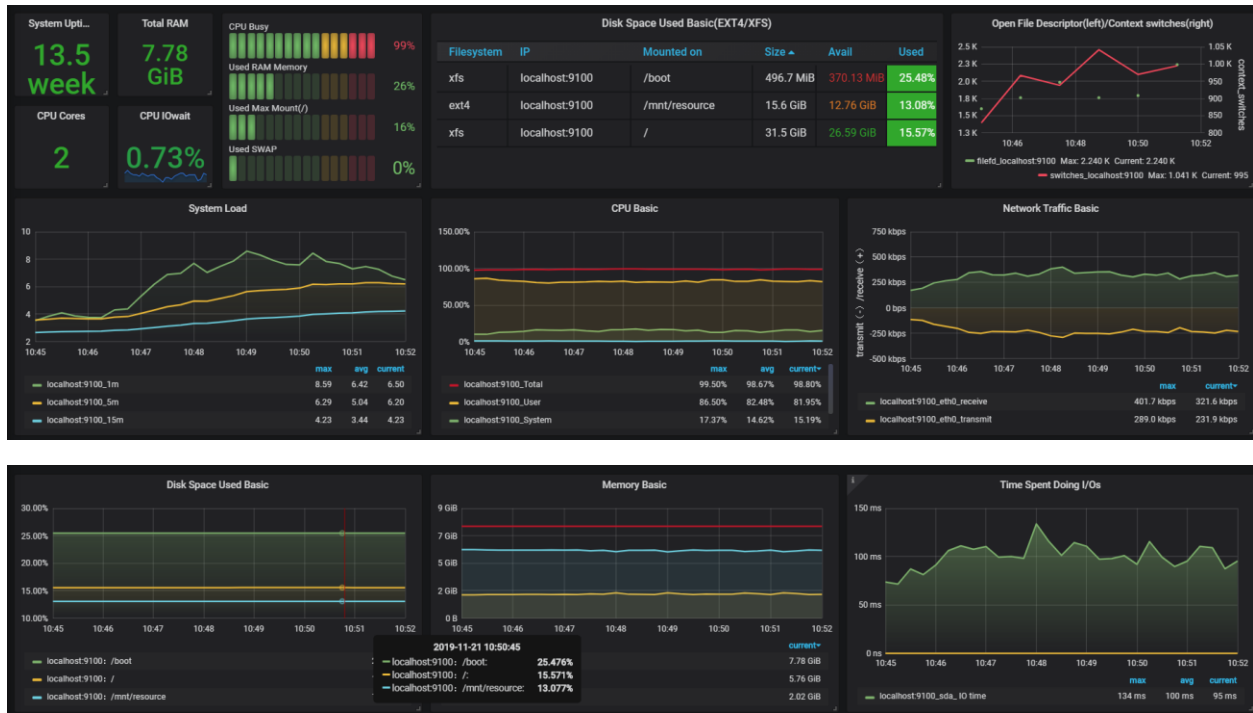
## CPU basic:

	max	avg	current
localhost:9100_Total	99.50%	98.67%	98.80%
localhost:9100_User	86.50%	82.48%	81.95%
localhost:9100_System	17.37%	14.62%	15.19%

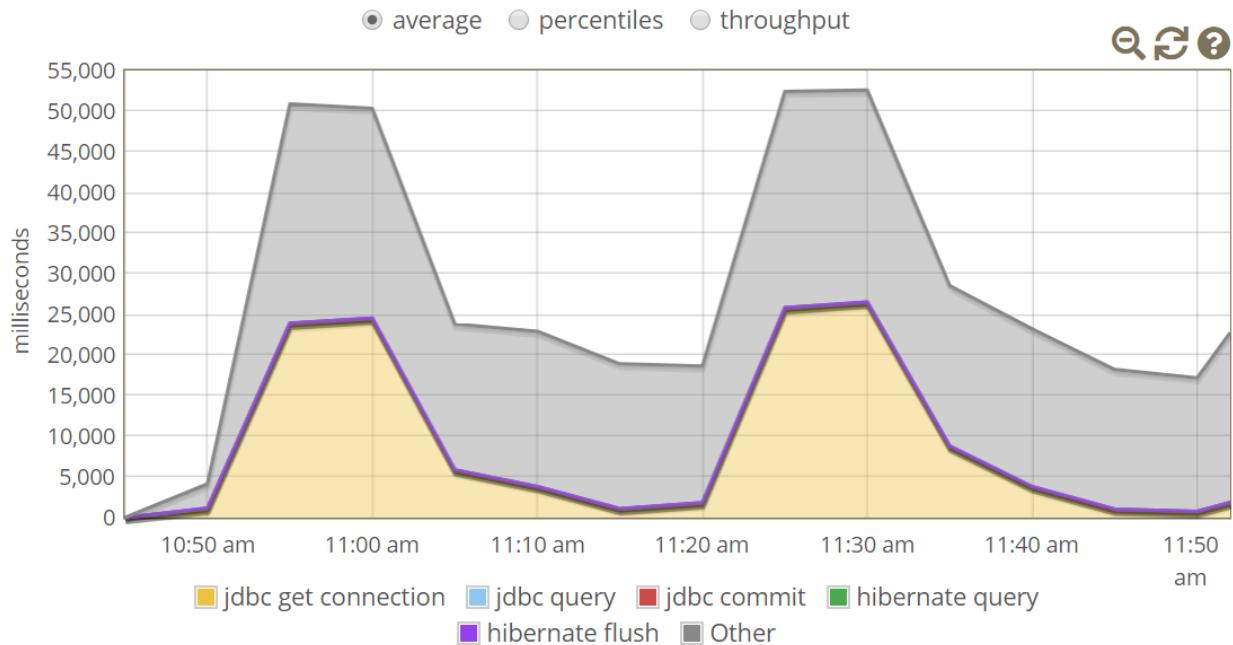
## Memory Basic:

	2019-11-21 10:45:15	current
localhost: localhost:9100_Total:	7.78 GiB	7.78 GiB
localhost: localhost:9100_Available:	5.80 GiB	5.76 GiB
localhost: localhost:9100_Used:	1.97 GiB	2.02 GiB

## Grafana graphs:



## Booking service response time graph in Glowroot:



## Comparison with previous performance run:

	21nd Nov run2(500 VU) with 7 scenarios					20th Nov run1(500 VU) with 1 scenario				
Transaction names	# Samples	Avg (ms)	Min	Max	Error %	# Samples	Avg (ms)	Min	Max	Error %
TR_prereg_homepage	16704	125	54	3135	0.00%	11009	125	53	2937	0.00%
TR_prereg_sendotp	16662	172	77	20693	0.00%	10981	163	14	6833	0.01%
TR_prereg_validateotp	16627	188	72	2816	0.00%	10974	158	76	7273	0.00%
TR_prereg_viewbasicdetails	16618	28871	273	71675	0.26%	10949	24120	276	59625	0.01%
TR_prereg_openbooking	6100	10665	177	56048	0.00%	NA	NA	NA	NA	NA
TR_prereg_searchregcenter	10282	57	15	3053	0.00%	10047	73	37	2575	0.00%
TR_prereg_cancelappointment	3419	12557	29	93826	1.20%	NA	NA	NA	NA	NA
TR_prereg_deleteapplication	3373	11162	71	36704	0.00%	NA	NA	NA	NA	NA
TR_prereg_Viewacknowledgement	5157	47	23	440	0.70%	NA	NA	NA	NA	NA
TR_prereg_submitdemographic	1769	14808	402	39283	0.00%	10876	54439	36	180560	5.80%
TR_prereg_updatedemographics	6080	27838	130	90222	0.00%	NA	NA	NA	NA	NA
TR_prereglogout	15763	203	99	4993	0.00%	9649	225	113	6404	0.00%
TR_prereg_uploadpoidocument	2787	286	17	2245	0.07%	10091	288	53	2598	0.07%
TR_prereg_uploadpoadocument	2782	211	104	4622	0.00%	10066	215	96	2743	0.00%
TR_prereg_openbookappointmentpage	5110	10912	42	101206	0.04%	10026	108	39	1084	0.00%
TR_prereg_bookappointment	5087	79906	267	180079	5.86%	10008	1191	191	28462	0.01%
TR_prereg_notify	4656	32696	293	180031	1.01%	9981	48048	246	180017	2.49%

### **Conclusion and Next Steps**

We have observed most of the transactions are taking high response time and preregistration DB utilization was average > 98% and also kernel DB CPU utilization was spiking in the performance since DB has 2 core and 8Gb ram ,we need to increase the capacity of DB servers and check performance of the application for 500 concurrent users.

raised defect <https://mosipid.atlassian.net/browse/MOS-30145> and we are follow up on other defects as well