

	Host	Type	IP	Hosted Applications	Ports
STAGIN G	EPUAKIYW1 844T2	VM	10.17.175.58	EPUAKIYW1844T2. kyiv.epam.com	80, 443

System resources (TEST env):

	Operational System	CPU, GHz	Memory, Gb	Disk size, Gb
DGL	Win Server 2010 R2 SP1 64bit	2	4	50

Tools:

Creating and executing tests	Apache JMeter v5.0
Storing test results and application indicators	InfluxDB 1.7.3
Collecting application metrics	Telegraf 1.10
Visualizing metrics, creating dashboards	Grafana 5.4.3

Test conditions

Condition	Transaction	First probabilities usage	Second probabilities usage
1	open home page	random	15%
	open random date		10%
	open prediction date		30%
	search by name		30%
	open large calendar		10%
	open contacts		5%
2	open random page	50%	50%
3	open post	50%	80%
4	open random post	50%	65%
	open first post	50%	35%
5	add comment	50%	20%

Test Setup

number of virtual users	120
ramp-up period	1200
think time between transactions(sec)	3-5
count of posts	100

Note: here random date is from 2019-02-01 to 2019-02-11.

Test Results

Test Summary

1. The maximum capacity of the application usage by Anonymous clients is not. For both scenarios it is restricted by the 100% CPU usage. Adding more load leads to the application becomes unresponsive.
2. Crash point is 58 for the 1st scenario. Crash point is 66 for the 2d scenario.

Issues found

In first case in interval 15:30 – 16:30 server sent errors for each request which probably related to memory usage.

Recommendation

Possibility to increasing CPU power. To fix problem with response time of opening Home page.

Results: graphs and tables

Test result dashboard:

First probabilities usage:

<https://snapshot.raintank.io/dashboard/snapshot/ef3RzyypmdRv20QtcepecH4HPVt6g1LN>

Second probabilities usage:

<https://snapshot.raintank.io/dashboard/snapshot/0qn4EGs7qOmPA0WoRwBJHos6UoGX8nMi>

Host monitoring dashboard:

First probabilities usage:

<https://snapshot.raintank.io/dashboard/snapshot/dYk2ZAlmgwIdY6Ong1g2x6tmmxBMLuxX>

Second probabilities usage:

<https://snapshot.raintank.io/dashboard/snapshot/z1ZzR6HOhtD9vZgUS34rL74zl80Iyf5>

1. Aggregate Reports

First probabilities usage:

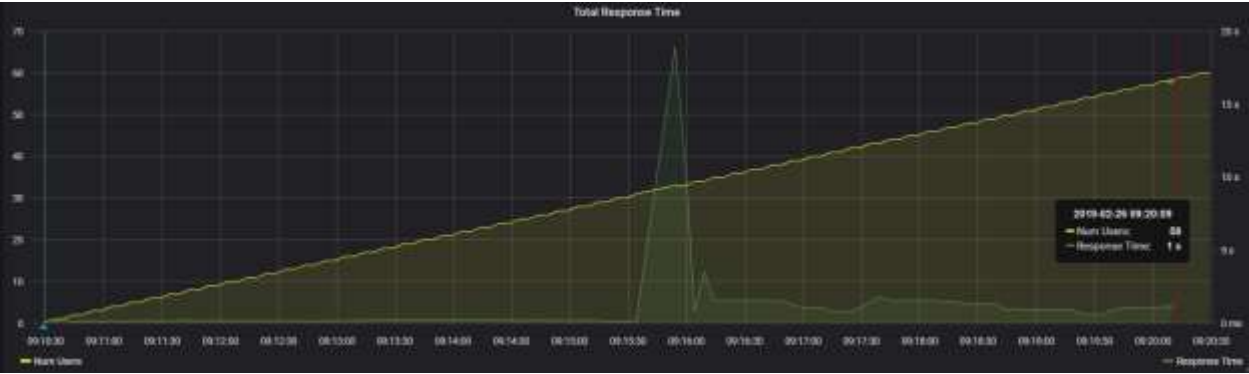
Aggregate Report											
Time	Transaction	Count	Avg	Min	Max	Median	Pct 75	Pct 90	Pct 95	RD	Error %
2019-02-26	Comment	452	99.32 ms	19.10 ms	5.33 s	392.10 ms	3.07 s	5.57 s	6.32 s	3	0.00%
2019-02-26	Open Contacts	496	277.30 ms	21.00 ms	75.32 s	333.10 ms	671.58 ms	5.58 s	1.02 s	1	0.00%
2019-02-26	Open Large Calendar	466	485.50 ms	34.00 ms	75.32 s	500.00 ms	771.46 ms	1.09 s	1.29 s	3	0.00%
2019-02-26	Open Predefined Date	463	364.02 ms	20.00 ms	75.32 s	500.00 ms	641.02 ms	3.02 s	3.02 s	3	0.00%
2019-02-26	Open Random Date	466	277.78 ms	21.00 ms	75.32 s	333.10 ms	700.67 ms	5.26 s	1.24 s	3	0.00%
2019-02-26	Open Random Page	561	379.70 ms	21.00 ms	75.32 s	544.00 ms	5.81 s	3.07 s	3.00 s	3	0.00%
2019-02-26	Open Search by name	501	466.00 ms	21.00 ms	75.32 s	466.00 ms	989.00 ms	1.02 s	1.02 s	4	0.00%
2019-02-26	Open post	914	383.34 ms	21.00 ms	75.32 s	436.40 ms	679.30 ms	7.02 s	1.16 s	6	0.00%
2019-02-26	Open to Home page	576	493.00 ms	21.00 ms	75.32 s	679.30 ms	5.21 s	3.12 s	3.10 s	2	0.00%

Second probabilities usage:

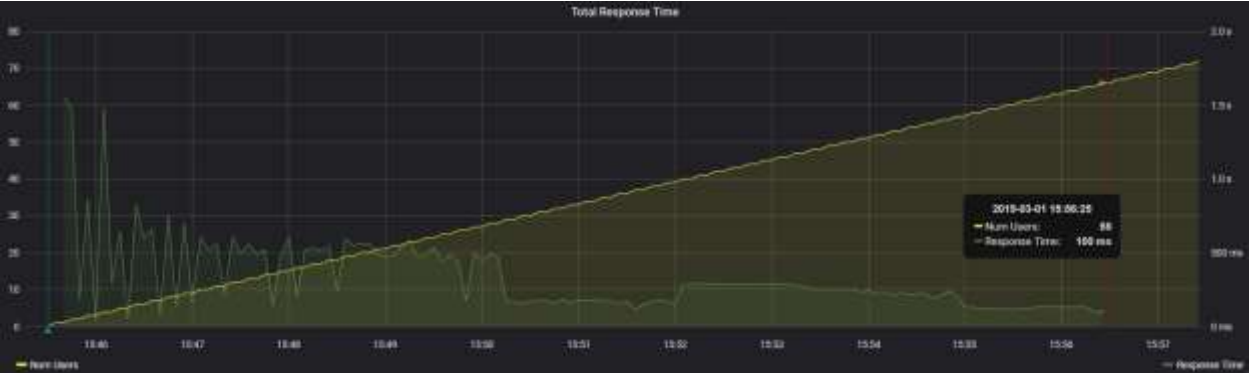
Aggregate Report											
Time	Transaction	Count	Avg	Min	Max	Median	Pct 75	Pct 90	Pct 95	RD	Error %
2019-03-01	Comment	211	302.11 ms	17.00 ms	684.00 ms	684.00 ms	684.00 ms	684.00 ms	684.00 ms	0	0%
2019-03-01	Open Contacts	134	46.73 ms	19.00 ms	236.00 ms	236.00 ms	236.00 ms	236.00 ms	236.00 ms	0	0%
2019-03-01	Open First Post	381	36.86 ms	20.00 ms	621.00 ms	76.00 ms	85.87 ms	617.65 ms	617.67 ms	0	0%
2019-03-01	Open Home page	440	119.69 ms	22.00 ms	2.93 s	271.00 ms	2.92 s	2.92 s	2.92 s	0	0%
2019-03-01	Open Large Calendar	259	30.36 ms	19.00 ms	329.00 ms	61.00 ms	336.00 ms	336.45 ms	336.52 ms	0	0%
2019-03-01	Open Predefined Date	734	36.46 ms	26.00 ms	179.00 ms	62.50 ms	113.54 ms	113.56 ms	128.84 ms	0	0%
2019-03-01	Open Random Date	256	40.07 ms	24.00 ms	711.00 ms	102.67 ms	754.46 ms	754.92 ms	754.93 ms	0	0%
2019-03-01	Open Random Page	670	40.31 ms	25.00 ms	646.00 ms	67.59 ms	768.20 ms	842.29 ms	440.03 ms	0	0%
2019-03-01	Open Random Post	682	66.75 ms	20.00 ms	264.00 ms	116.00 ms	236.00 ms	264.00 ms	264.00 ms	0	0%
2019-03-01	Search By Name	748	40.30 ms	16.00 ms	100.00 ms	102.00 ms	184.00 ms	284.00 ms	184.00 ms	0	0%

2. Total Response Time vs Threads

First probabilities usage:



Second probabilities usage:



3. Transaction Response Times

First probabilities usage:



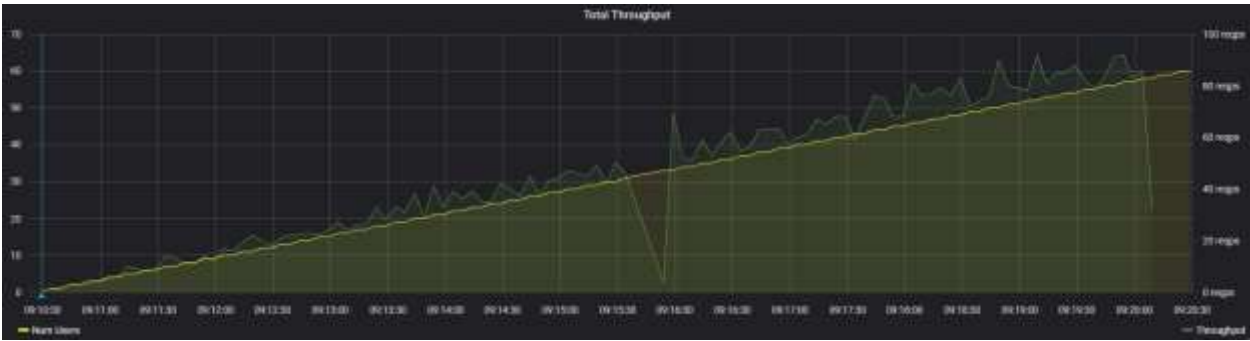
Second probabilities usage:



The average of response time in second case was much less than in first one.

4. Total Throughput vs Threads

First probabilities usage:

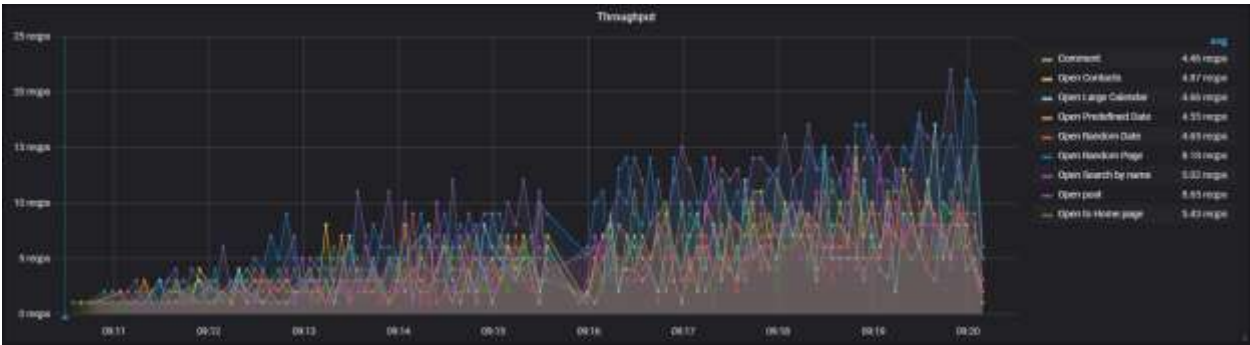


Second probabilities usage:

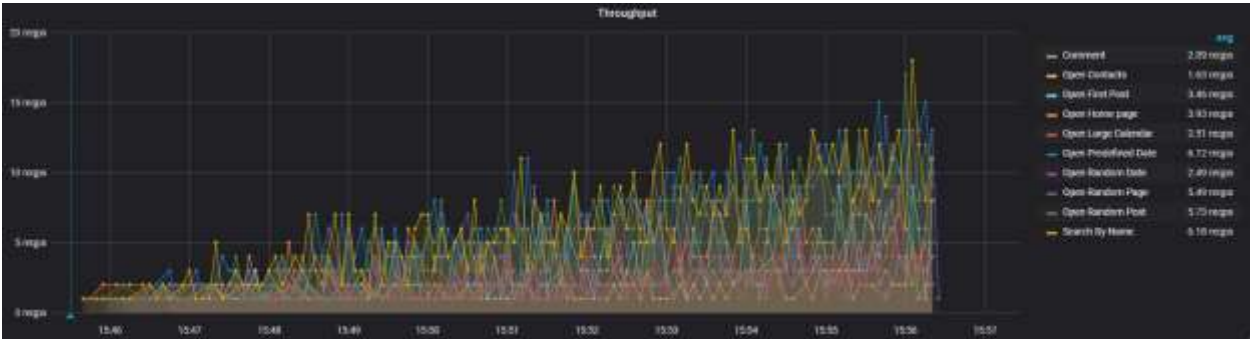


5. Transaction Throughput

First probabilities usage:

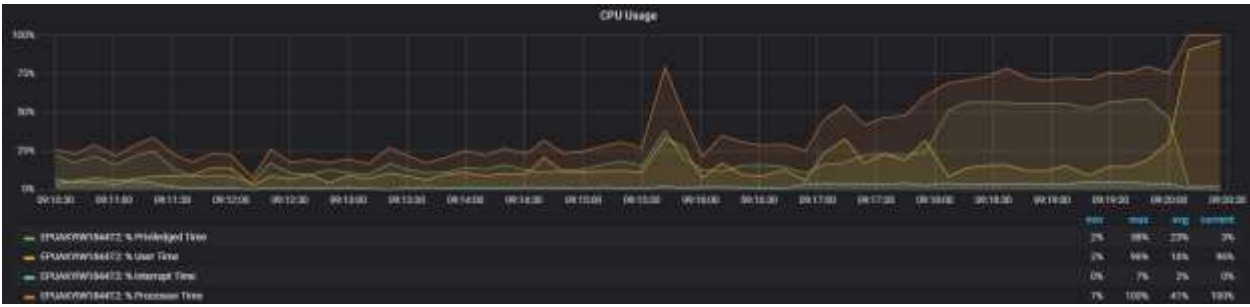


Second probabilities usage:

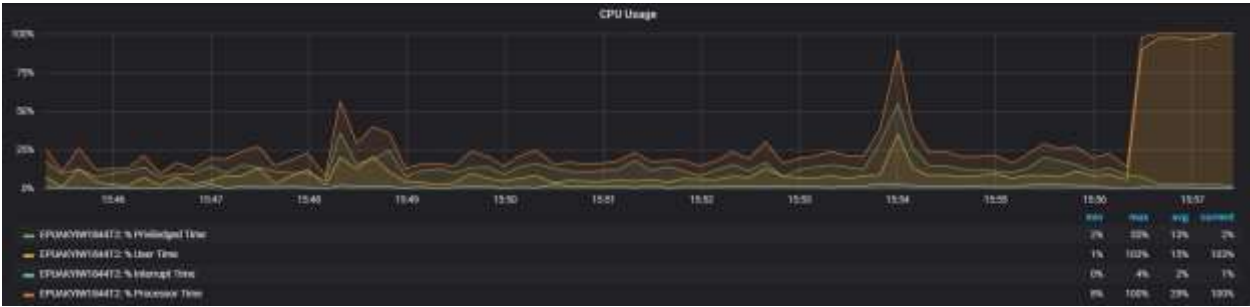


6. CPU

First probabilities usage:



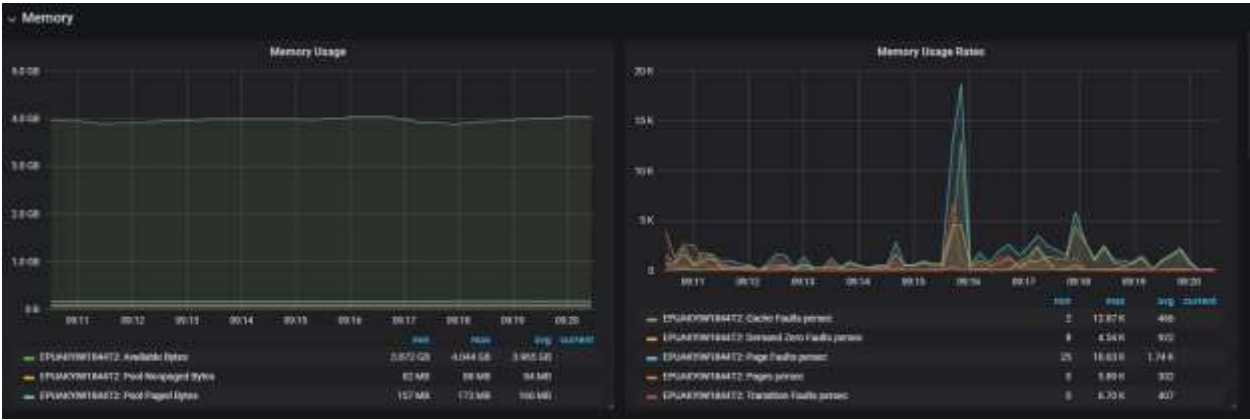
Second probabilities usage:



In the second case indicators of CPU were stable during the test up to crash. In the first case after 5 min of test percent of CPU usage started to increase up to the crash

7. Memory

First probabilities usage:

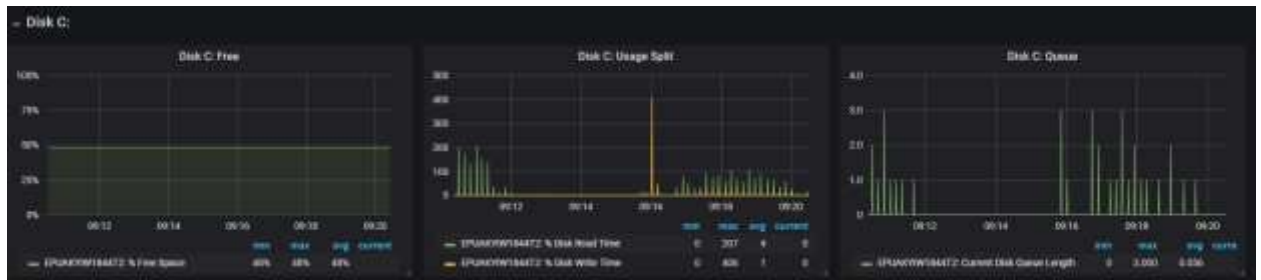


Second probabilities usage:

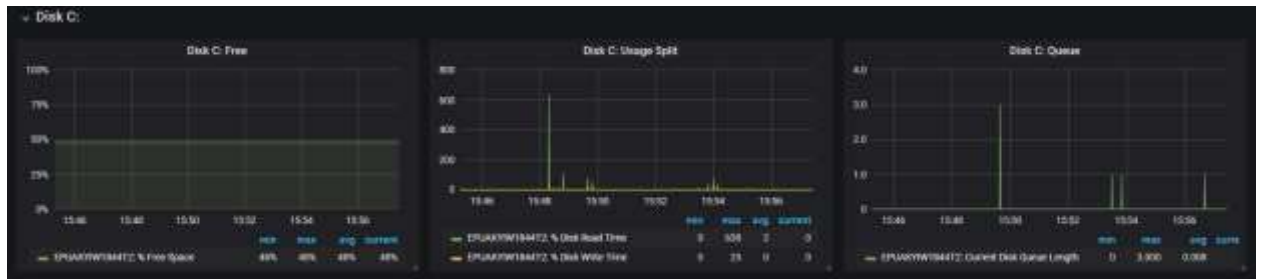


8. Disk C

First probabilities usage:

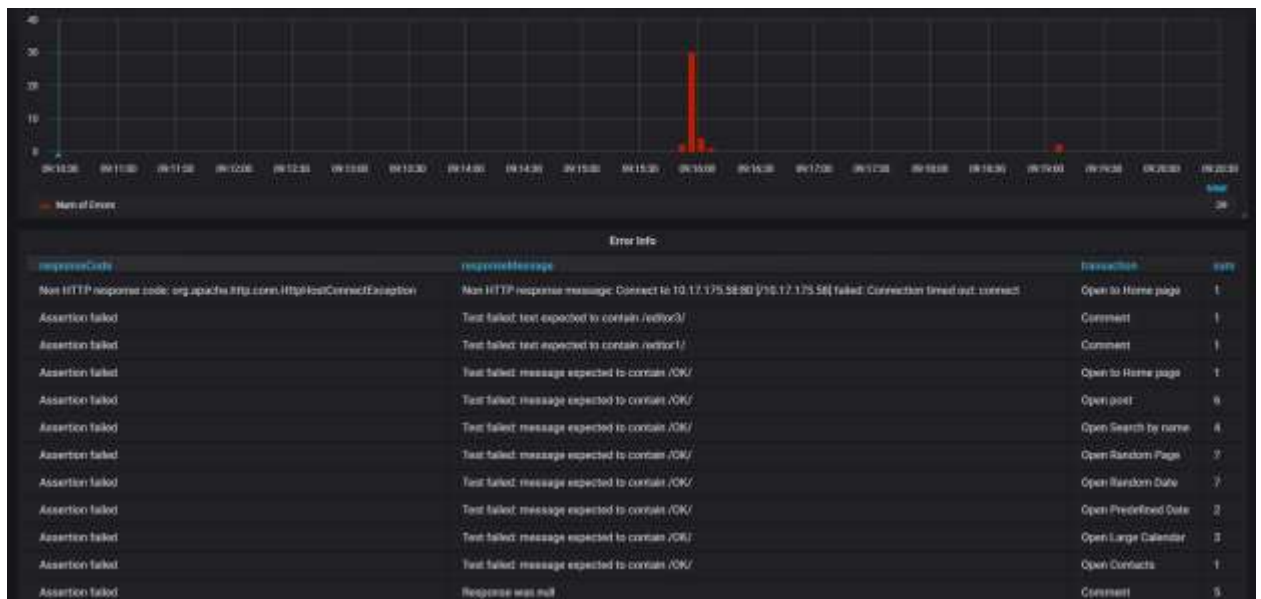


Second probabilities usage:



9. Errors

First probabilities usage:



Second probabilities usage:

No error



In first case in interval 15:30 – 16:30 server sent errors which probably related to memory usage.