LOAD TEST REPORT

This document describes a load test we conducted on ONLYOFFICE Docs and the results of the test. The main goal was to determine the number of simultaneous connections that ONLYOFFICE Docs can support.

The server was loaded with 900, 1000, 1100, 1200 users. As a result, it was found that 1000 connections is the maximum load for the current server configuration with ONLYOFFICE Docs installed.

The following sections describe in detail the testing environment and testing process as well as graphic reports and comparison graphs.

Test stand:

ONLYOFFICE Docs - Document server installed using Docker

Version:
onlyoffice/documentserver Enterprise Edition:6.3.1.32.
Server specifications: CPU 4 core,
8Gb RAM,
8Gb swap,
150Gb SSD,
Ubuntu 20.04

Apache Jmeter

Version:
5.4.1
Server specifications: CPU 4 core,
8Gb RAM,
40Gb SSD,
Windows server 2012 r2

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Test case description:

The load is carried out using the Apache Jmeter tool for load testing. Testing is performed for 1 hour with 1000 connections.

At the beginning of testing, the script generates the connection of 1000 virtual users to the Document server. Each connection is a user who opened a single document and started making changes. Then the case is executed with the following parameters:

1. Every 4 seconds changes are made to all the documents. For 1000 connections, it is 250 changes per second.
2. Every 60 seconds 9-10% of connections is closed. After closing the connections, documents are sent to the server for converting and assembling. The same number of new connections is opened. For 1000 connections, it is 90-100 closed connections per 60 seconds. 5931 documents were sent for assembling in the space of 1 hour of the test.

At the end of testing, all active connections are closed, and documents are sent for assembling.

Summary table:

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received KB/sec	Sent KB/sec	Avg. Bytes
open and send auth	6931	41	13	571	58.42	0.00%	1.9/sec	0.35	1.70	184.0
read license	6931	0	0	17	0.54	0.00%	1.9/sec	0.43	0.00	229.0
read auth	6931	457	13	2970	837.36	0.00%	1.9/sec	1.11	0.00	591.0
read documentOpen	6927	1999	0	16926	3063.08	0.00%	1.9/sec	0.54	0.00	284.0
download Editor.bin	6927	15	7	617	24.81	0.00%	1.9/sec	15.56	0.50	8181.0
send getLock	898560	0	0	547	0.61	0.00%	249.7/sec	0.00	12.93	0
read getLock	898560	14	0	638	16.22	0.00%	249.7/sec	27.80	0.00	114.0
send isSaveLock	898556	0	0	65	0.18	0.00%	249.7/sec	0.00	8.54	0
read saveLock	898556	21	0	670	23.85	0.00%	249.7/sec	11.95	0.00	49.0
send saveChanges	898553	0	0	473	0.63	0.00%	249.7/sec	0.00	429.47	0
read unSaveLock	898553	70	0	1956	111.14	0.00%	249.7/sec	16.97	0.00	69.6
Transaction Controller	5965	16238	800	149735	15481.95	0.00%	1.7/sec	62.85	379.72	38841.5
close	5931	13	6	123	8.92	0.00%	1.7/sec	0.04	0.05	27.0
Transaction Controller - close	5931	13	6	123	8.92	0.00%	1.7/sec	0.04	0.05	27.0
TOTAL	5443812	38	0	149735	755.89	0.00%	1512.1/sec	137.42	832.68	93.1

1. open and send auth - loading a document and its id for opening.
2. read auth - authorization is performed.
3. read documentOpen - conversion is over.
4. download Editor.bin - received a binary file with the document.
5. send getLock - requested the element lock before making changes.
6. read getLock - got the lock.
7. send isSaveLock - requested the lock for saving the changes.
8. read saveLock - got the lock.
9. send saveChanges - sent the changes.
10. read unSaveLock - confirmed receiving changes.
11. Transaction controller - a logical block which includes performing operations from 1 to 10.
12. close - closing the connection.
13. Transaction controller close - a logical block which includes performing the operation 12.

Average, Min, Max — average, minimum and maximum execution time in milliseconds.
Std.Dev — the standard deviation.

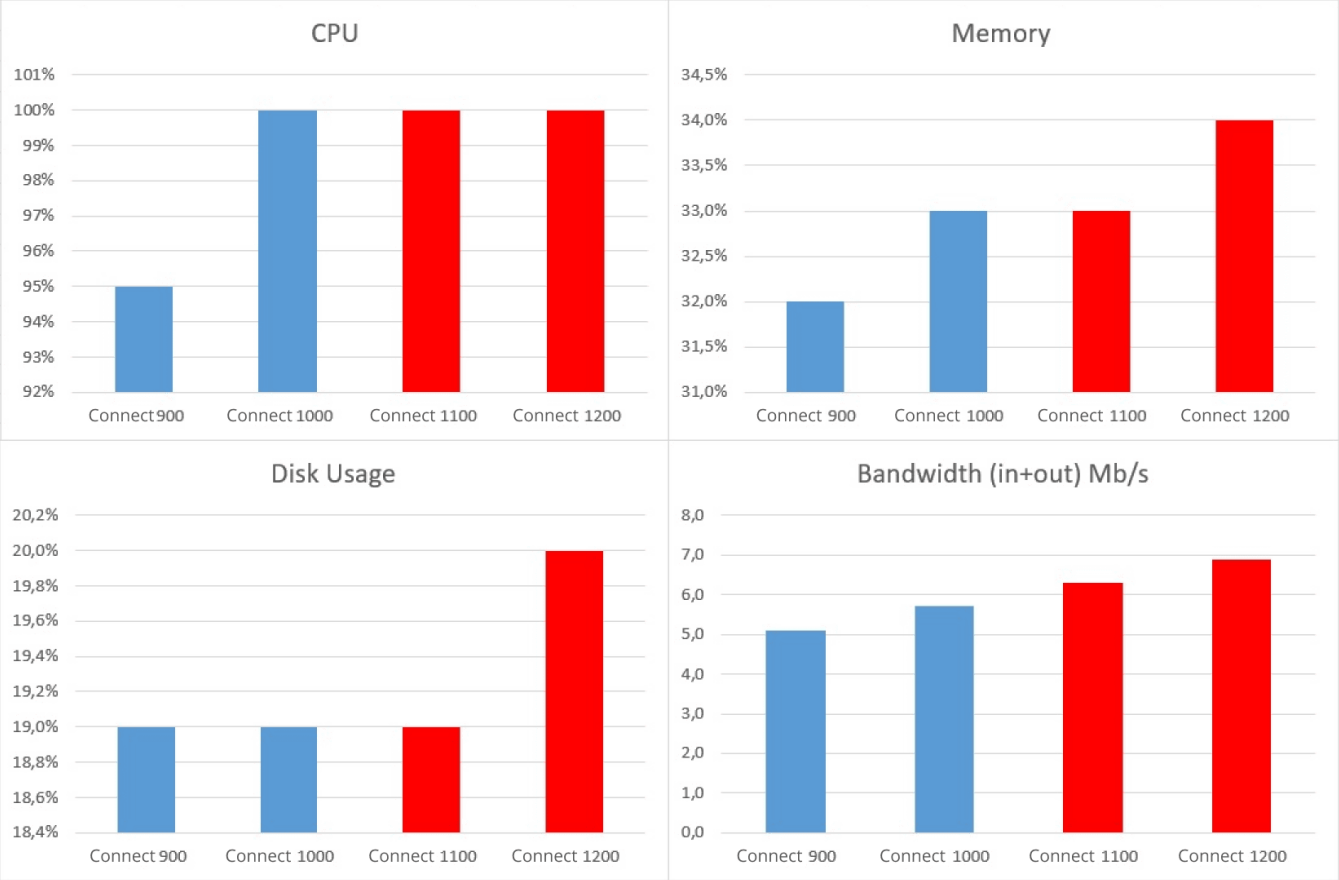
Error % — a percent of errors when executing requests.
Troughput — a number of requests handled by the server per second.
Received and Sent KB/sec — a size of received and sent data.
Avg.Bytes — an average size of received data.

Determining the maximum number of connections for the ONLYOFFICE Docs server.

To determine the number of connections that ONLYOFFICE Docs can support, testing was performed with 900, 1000, 1100, 1200 connections.

1. 900 connections - testing finished successfully.
2. 1000 connections - testing finished successfully.
3. 1100 connections - handleDeadLetter errors, the server cannot handle the load on the conversion (41 errors).
4. 1200 connections - handleDeadLetter errors, the server cannot handle the load on the conversion (1268 errors).

Comparison graphs:

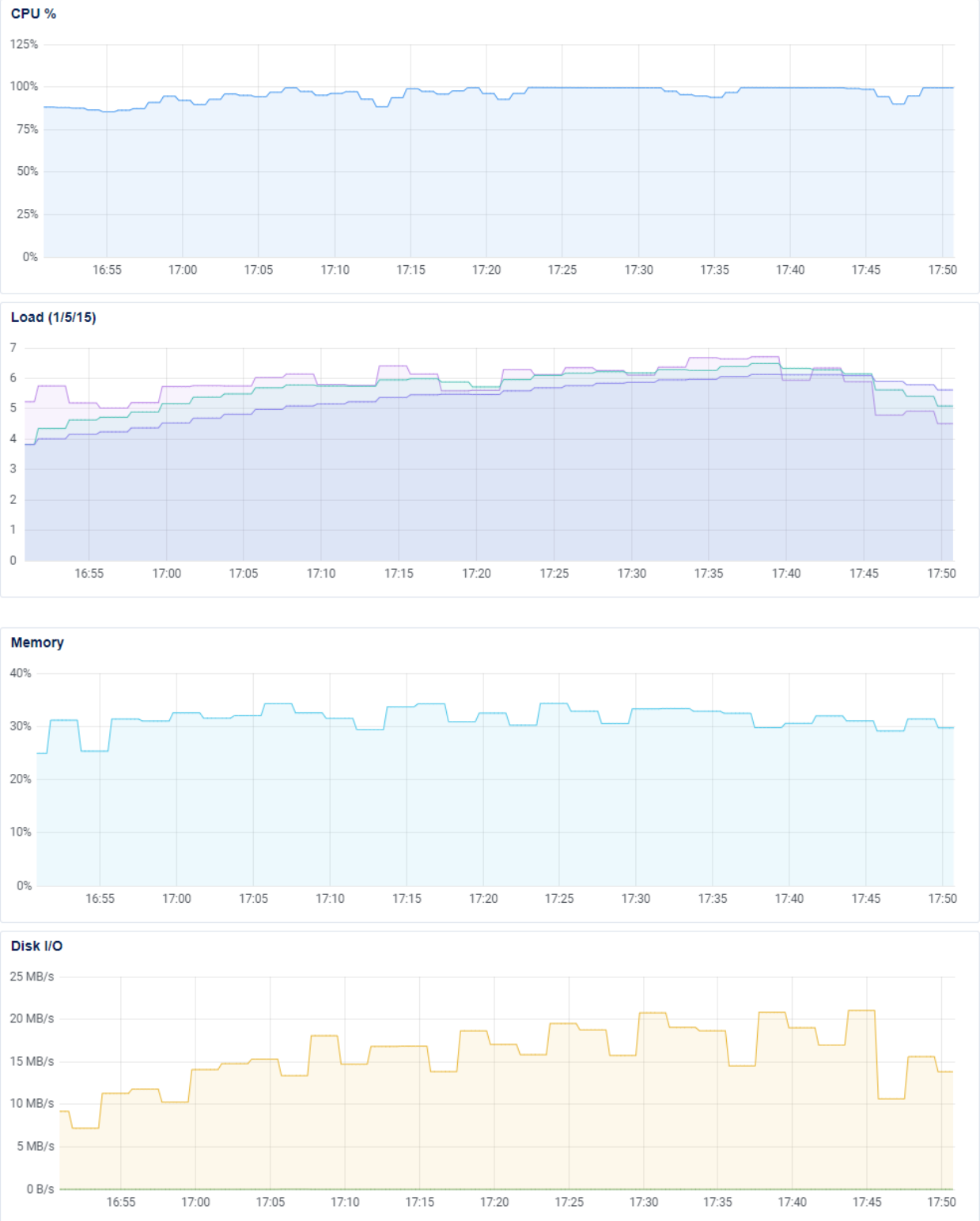


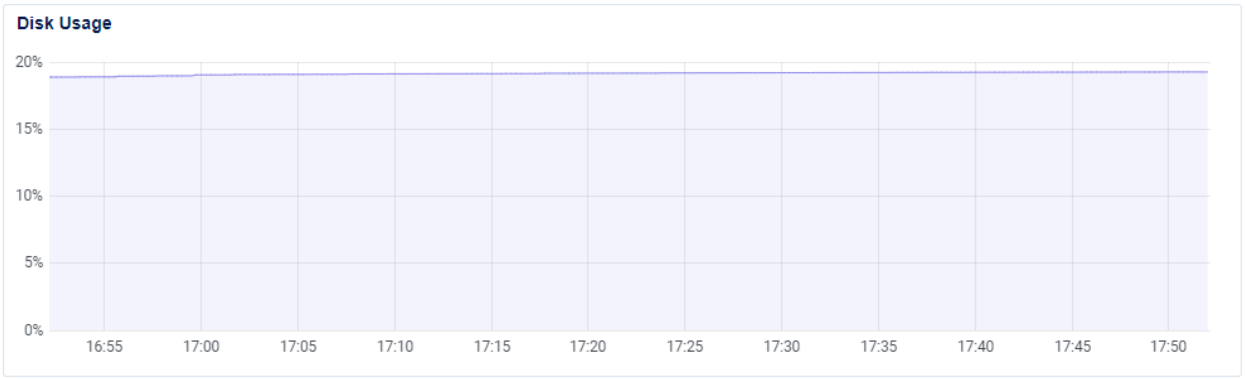
In summary, the result of testing with 1000 connections is the maximum load on the current configuration of the ONLYOFFICE Docs server.

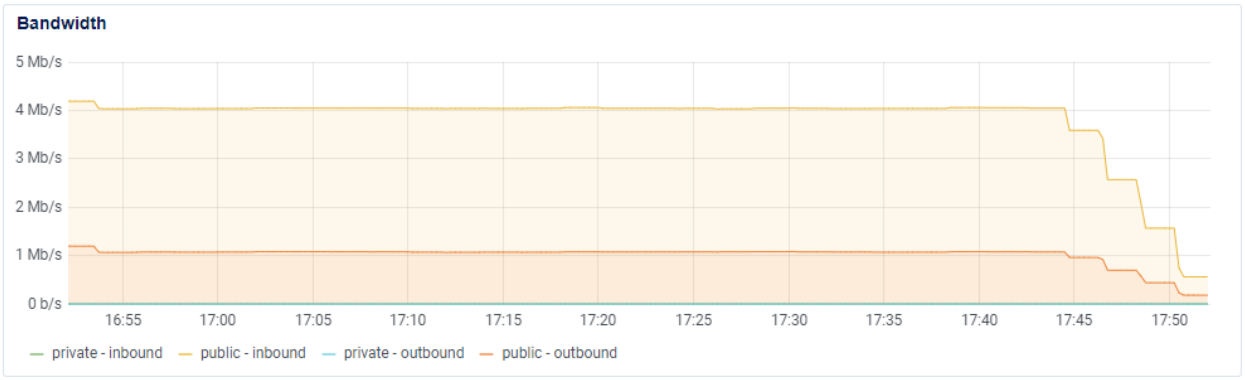
Detailed load graphs

Graphs of the load on the server with ONLYOFFICE Docs during testing.

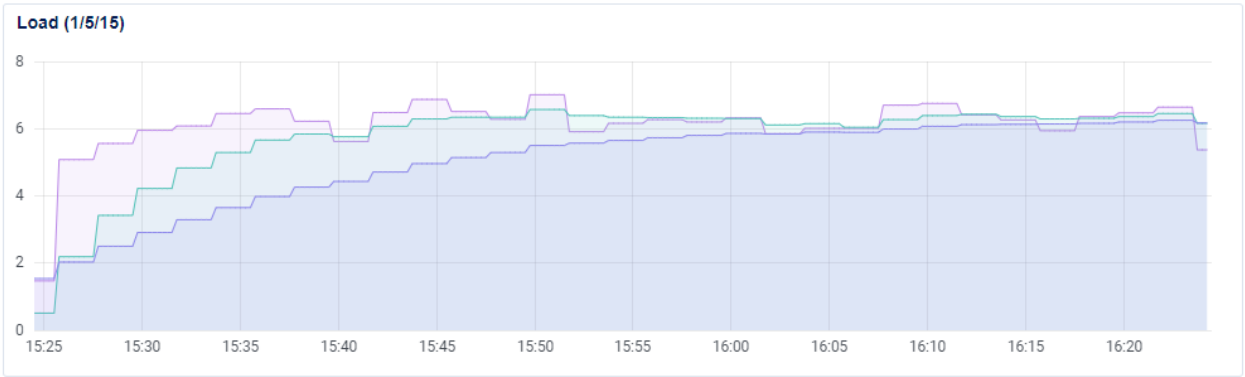
1. 900 simultaneous connections







2. 1000 simultaneous connections



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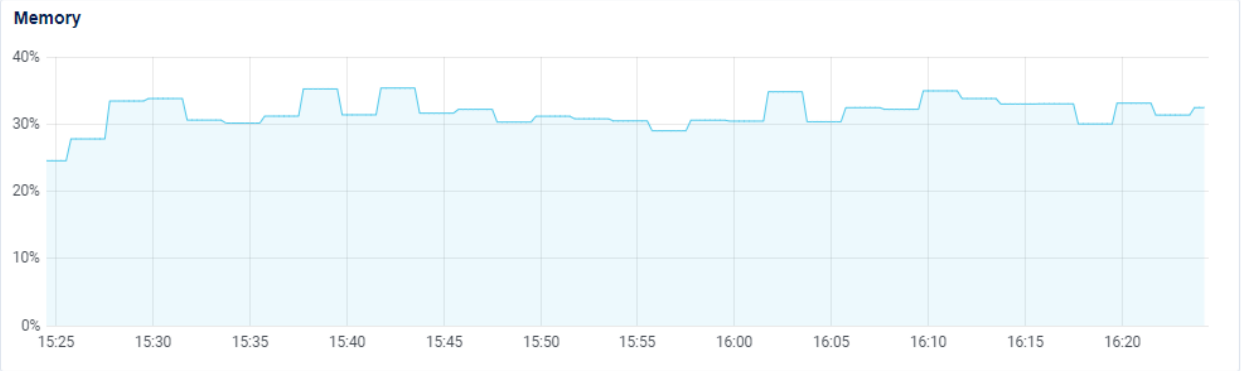
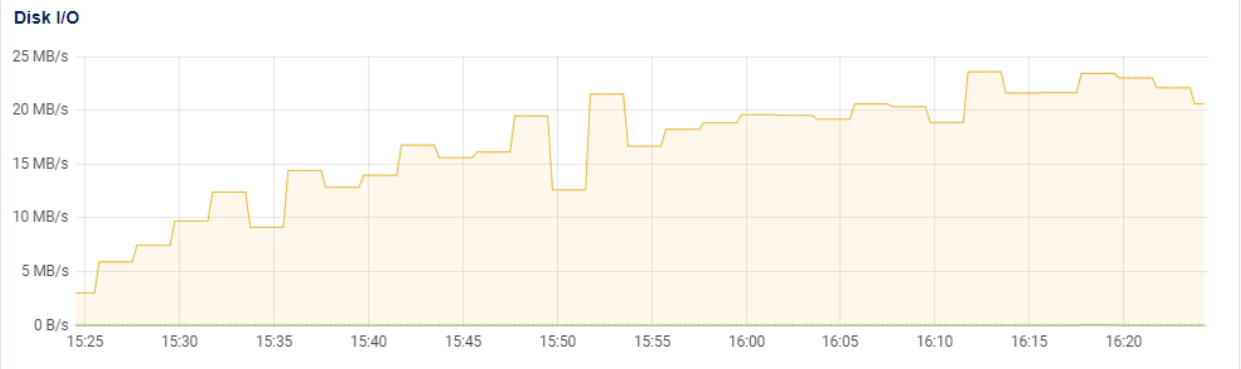

Memory
40%
30%
20%
10%
0%
15:25
15:30
15:35
15:40
15:45
15:50
15:55
16:00
16:05
16:10
16:15
16:20


Disk I/O
25 MB/s
20 MB/s
15 MB/s
10 MB/s
5 MB/s
0 B/s
15:25
15:30
15:35
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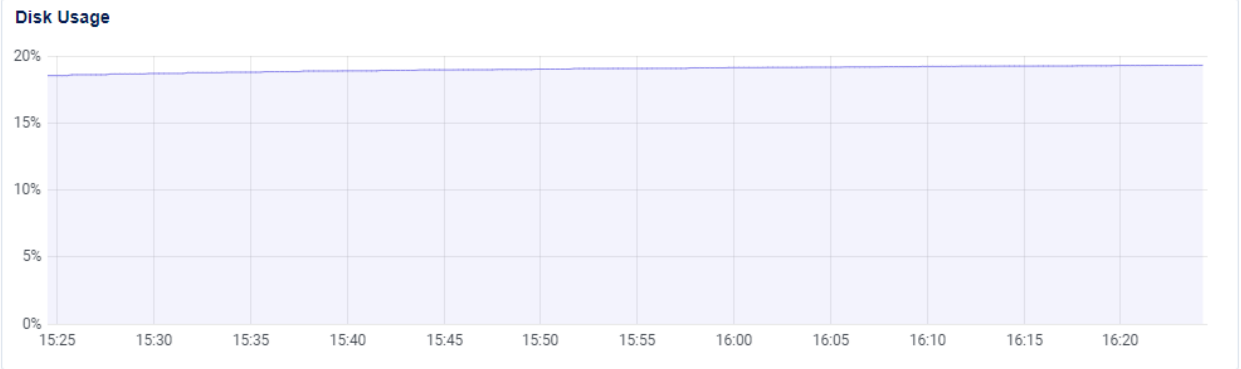
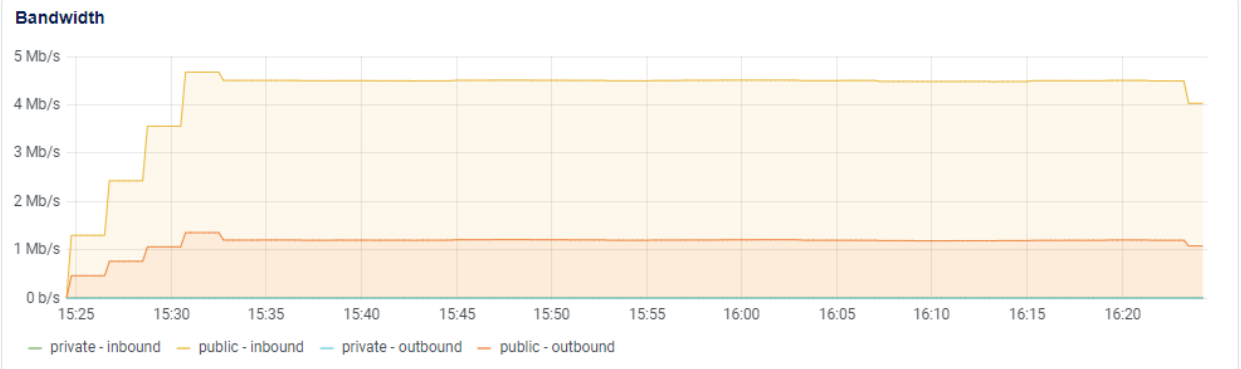
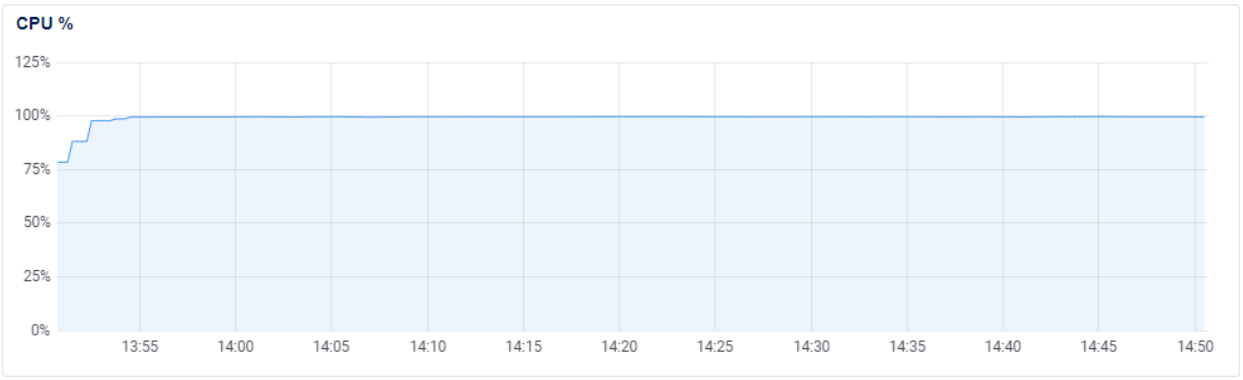
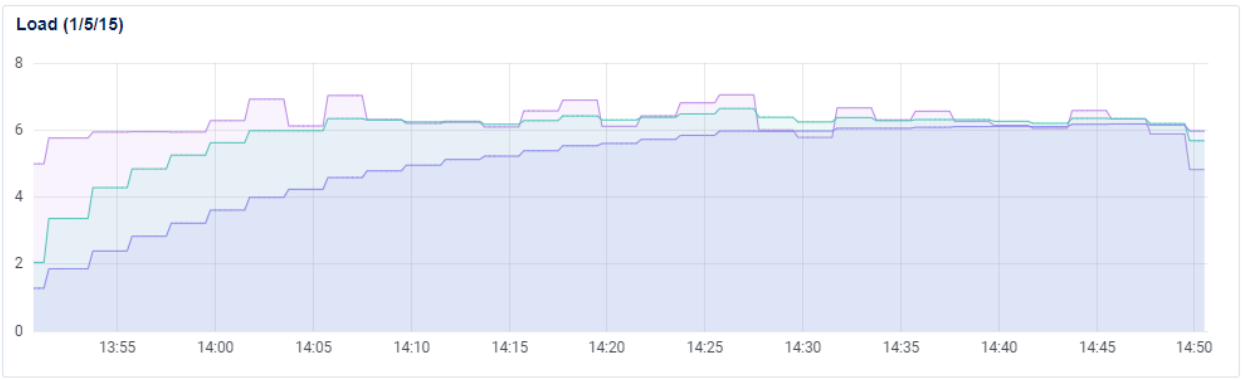
15:55
16:00
16:05
16:10
16:15
16:20

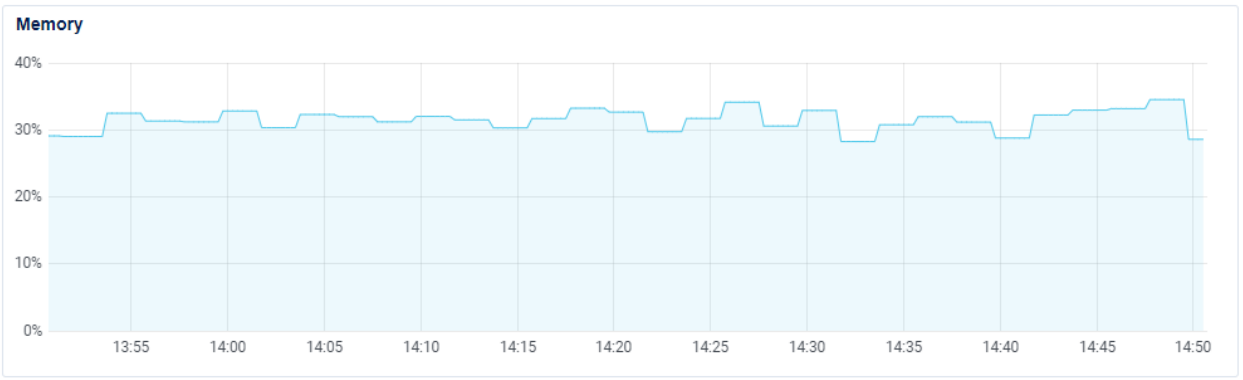

Disk Usage
20%
15%
10%
5%
0%
15:25
15:30
15:35
15:40
15:45
15:50
15:55
16:00
16:05
16:10
16:15
16:20

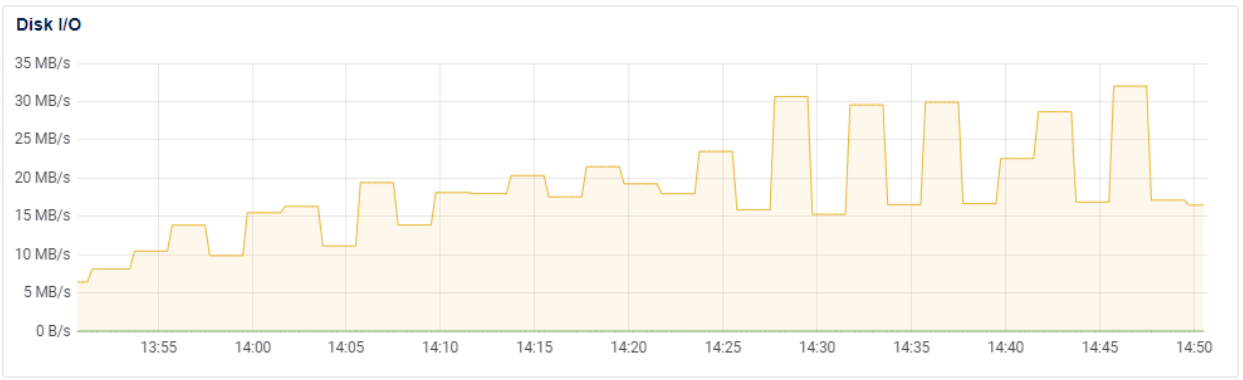

Bandwidth
5 Mb/s
4 Mb/s
3 Mb/s
2 Mb/s
1 Mb/s
0 b/s
15:25
15:30
15:35
15:40
15:45
15:50
15:55
16:00
16:05
16:10
16:15
16:20
private - inbound
public - inbound
private - outbound
public - outbound

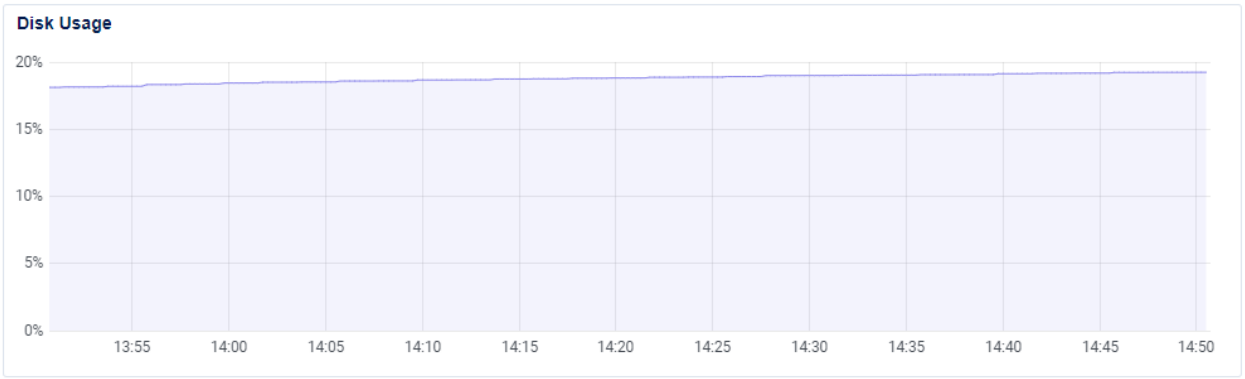
3. 1100 simultaneous connections

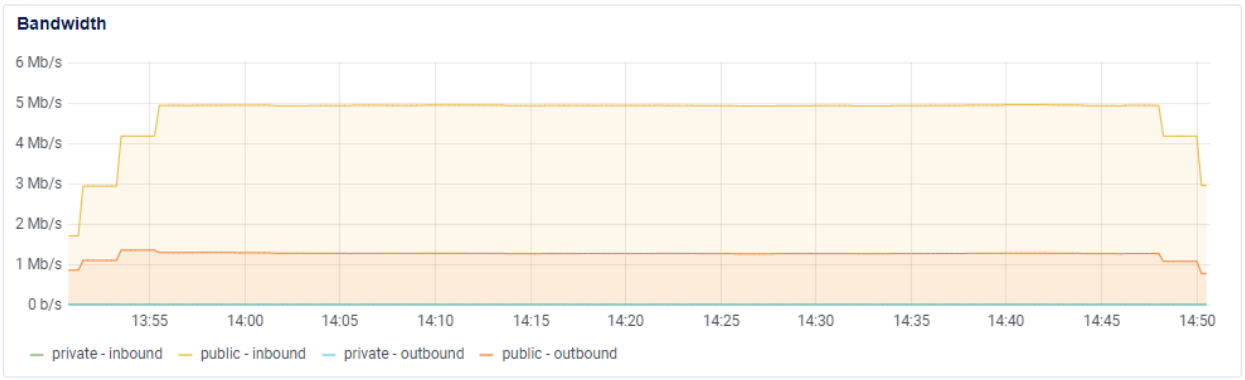




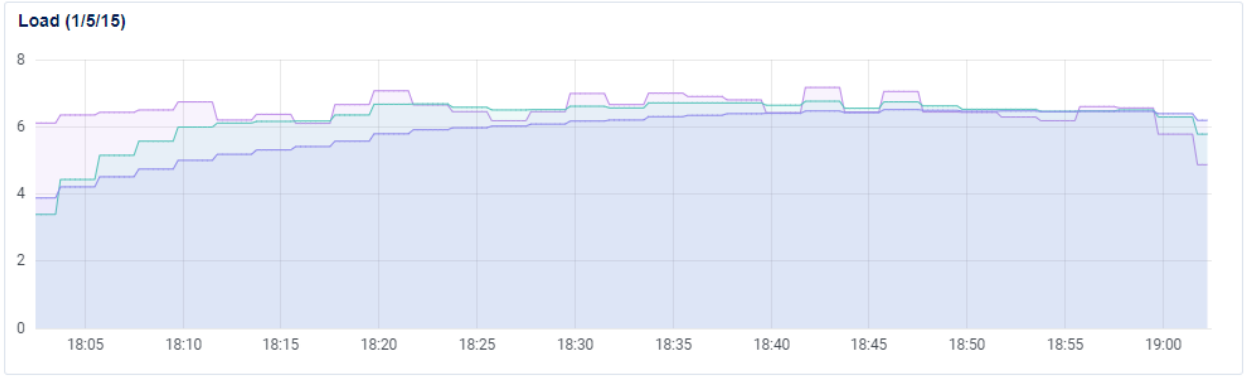








4. 1200 simultaneous connections



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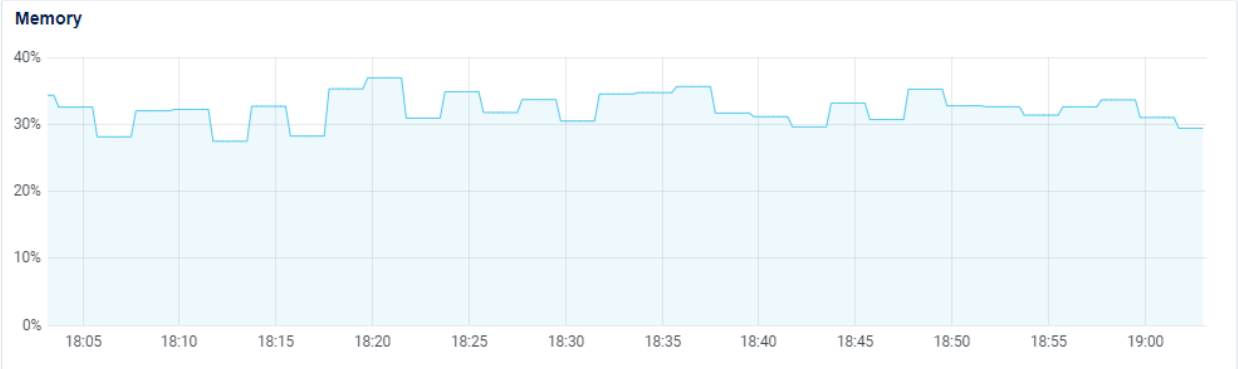
Memory
40%
30%
20%
10%
0%
18:05
18:10
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18:25
18:30
18:35
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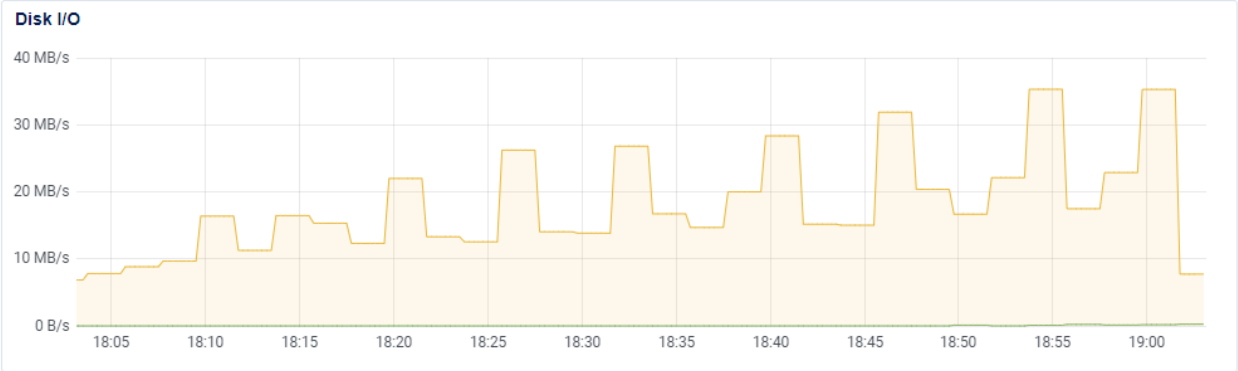
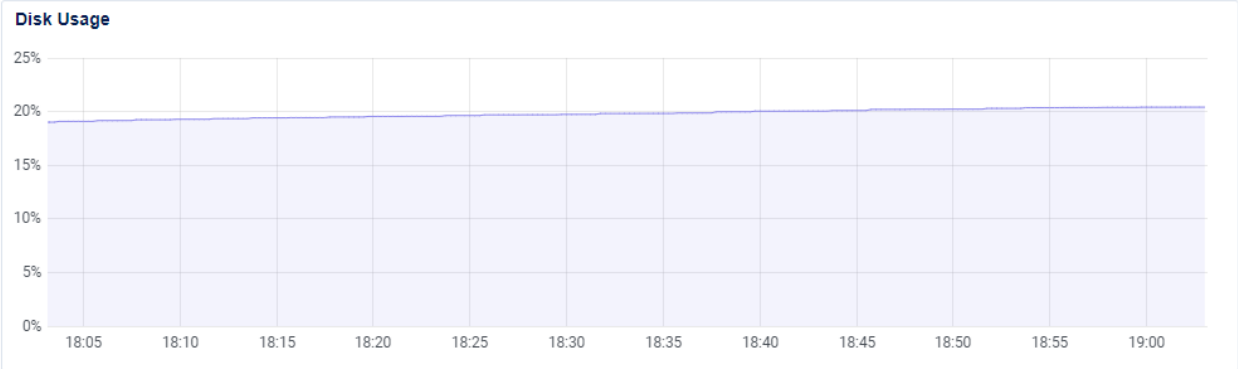
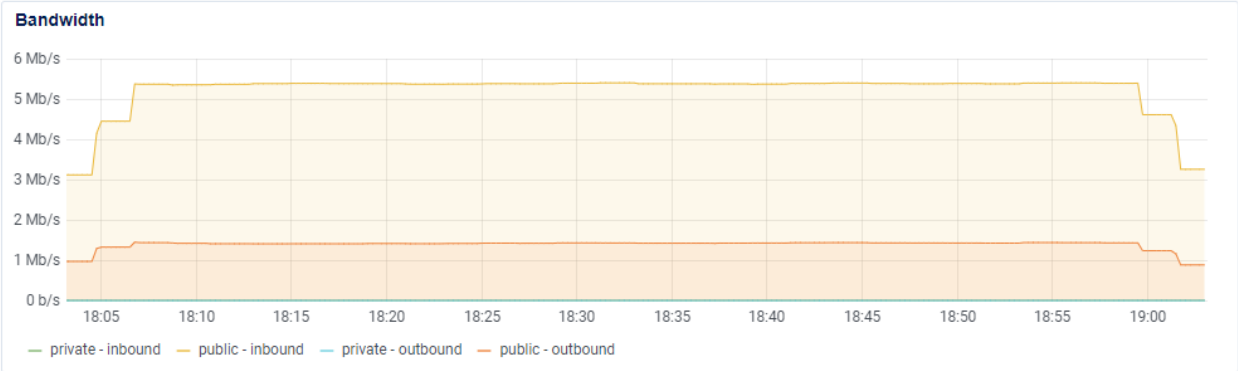
18:45
18:50
18:55
19:00


Disk I/O
40 MB/s
30 MB/s
20 MB/s
10 MB/s
0 B/s
18:05
18:10
18:15
18:20
18:25
18:30
18:35
18:40
18:45
18:50
18:55
19:00


Disk Usage
25%
20%
15%
10%
5%
0%
18:05
18:10
18:15
18:20
18:25
18:30
18:35
18:40
18:45
18:50
18:55
19:00


Bandwidth
6 Mb/s
5 Mb/s
4 Mb/s
3 Mb/s
2 Mb/s
1 Mb/s
0 b/s
18:05
18:10
18:15
18:20
18:25
18:30
18:35
18:40
18:45
18:50
18:55
19:00
private - inbound
public - inbound
private - outbound
public - outbound