

VMware View Planner Test Report

August 12, 2019

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1. Introduction

1.1 View Planner Background

VMware View Planner simulates a typical office user's activity by running several applications while measuring the latency of the operations. The applications include Microsoft Office, a browser, Windows Media Player, etc., and the operations are opening, modifying, saving, and closing files, browsing, playing a video, etc. Each View Planner run consists of these applications run in an iterative fashion in random order. The results of a run consist of the latencies of the operations collected over all iterations.

1.2 View Planner QoS Methodology

The View Planner Quality of Service (QoS) methodology splits these operations into the following groups.

Group A	Interactive/fast-running operations that are CPU bound, like browsing through a PDF file, modifying a Word document, etc.
Group B	Long-running slow operations that are I/O bound, like opening a large document, saving a PowerPoint file, etc.
Group C	Background operations and other operations that do not belong to group A, B, or X.
Group X	Advanced Workloads including Audio/Video Benchmark and Mouse-Drag&Scroll; Benchmark.

1.3 Dissemination of View Planner Results

View Planner results must not be published unless they comply with the Run and Reporting Rules document, which is available with your download.

2. Test Configuration

View Planner runs use one or more ESX hosts to run the desktop virtual machines and one or more other ESX hosts to run the View Planner controller appliance and the client virtual machines. Below is an example of the configuration settings for a test run.

2.1 Workload Profile

Work Profile Name	standardTestProfile_chrome
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2.2 Run Profile

Run Profile Name	vplan1
Number Of Vms	5
Ramp Up Time	10
Think Time	5
Number Of Iterations	5
Discarded Desktop Count	0
Display Protocol	
Type Of Desktop	

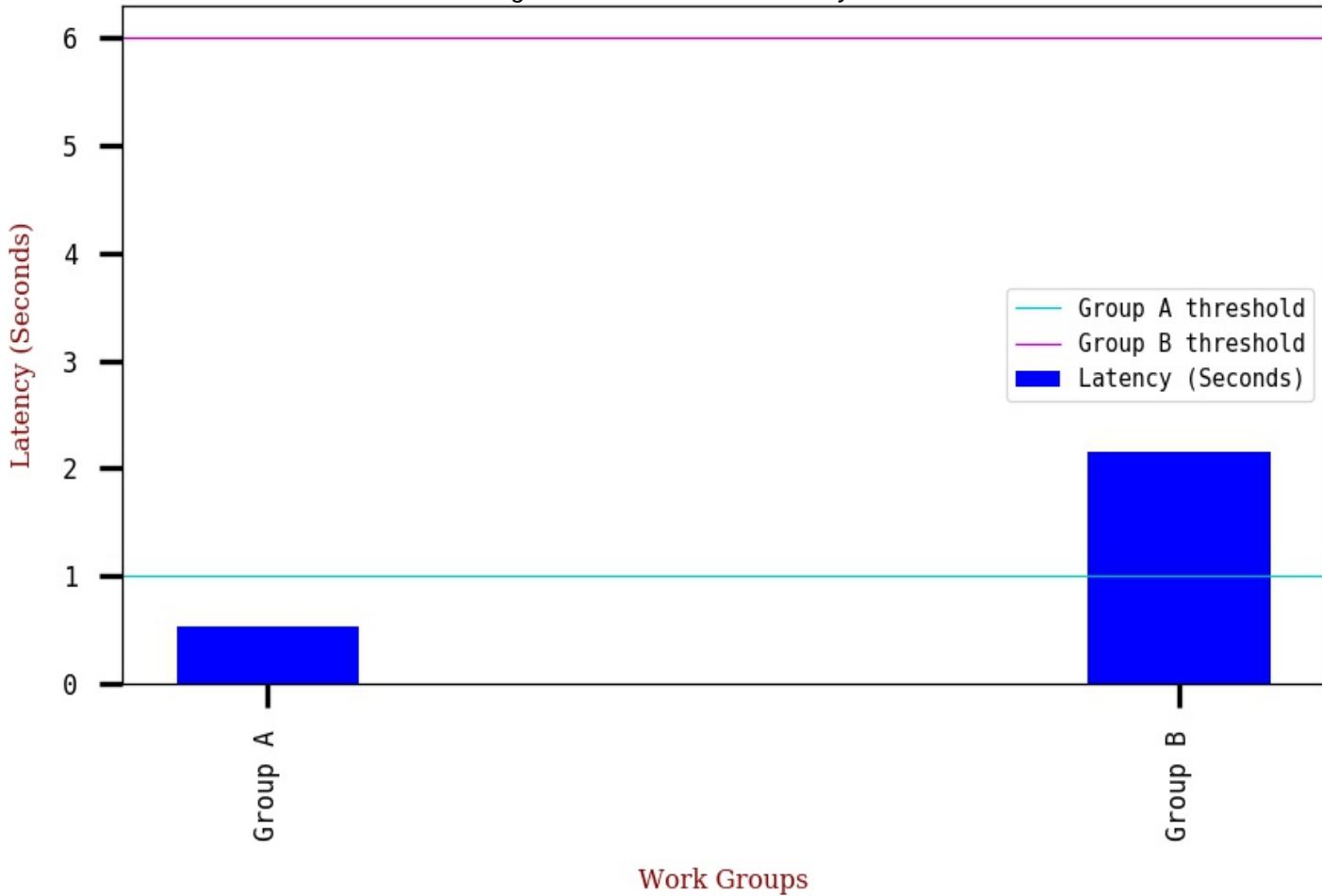
3. View Planner Score

Test Name	test2
Test Mode	local
Latency Data Mode	local
Test Start Time	2019-08-12 14:08:03
Test End Time	2019-08-12 16:06:17
Test Status	Completed

3.1 Workgroup - vplan1: QoS Summary

Latency Group	95th Percentile Latency in Seconds (Lower is Better)	Threshold in Seconds
Group A (CPU Sensitive)	0.531	<= 1
Group B (Storage Sensitive)	2.1561	<= 6

Figure 1. 95th Percentile latency



4. Operation Details

4.1 Workgroup - vplan1: Executed Vs Expected Operation Ratio

Ratio of Actual to Expected Operations (0.0 to 1.0)	0.6
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4.2 Workgroup - vplan1: Application Response Time

Table 1. Workload Event Latency Statistics

Operation	Group	Executed / Expected Count	Mean	Median	Variance
chrome_close	Group B	15/15	2.1512	2.1521	0.0003
chrome_navigateApacheDoc	Group A	405/405	0.2958	0.2827	0.0046
chrome_open	Group B	15/15	1.2935	1.3017	0.0074
chrome_webalbum_close	Group B	15/15	2.1463	2.1403	0.0004
chrome_webalbum_navigate	Group A	210/210	0.157	0.154	0.0005
chrome_webalbum_open	Group B	15/15	1.2629	1.2568	0.0021
excel_data_entry	Group A	30/75	0.0005	0.0004	0.0
excel_open	Group B	6/15	0.8232	0.792	0.0019
excel_sort	Group A	30/75	0.0006	0.0006	0.0
pdf_browse	Group A	300/300	0.0434	0.0394	0.0001
pdf_close	Group A	15/15	0.5805	0.5298	0.011
pdf_maximize	Group A	15/15	0.5811	0.5929	0.0009
pdf_minimize	Group A	15/15	0.5787	0.5303	0.0111
pdf_open	Group B	15/15	0.3908	0.2968	0.0152
word_maximize	Group A	15/15	0.5913	0.5774	0.0011
word_minimize	Group A	15/15	0.5269	0.5265	0.0
word_open	Group B	15/15	0.3101	0.3094	0.0
pptx_open	Group B	0/15	0	0	0
word_save	Group B	0/15	0	0	0
pptx_close	Group A	0/15	0	0	0
word_close	Group A	0/15	0	0	0
excel_close	Group A	0/15	0	0	0
pptx_saveas	Group None	0/15	0	0	0
video_close	Group A	0/15	0	0	0
word_modify	Group A	0/75	0	0	0
excel_saveas	Group B	0/15	0	0	0
outlook_open	Group B	0/15	0	0	0
outlook_read	Group B	0/75	0	0	0
outlook_close	Group A	0/15	0	0	0
pptx_maximize	Group A	0/15	0	0	0
pptx_minimize	Group A	0/15	0	0	0
excel_maximize	Group A	0/15	0	0	0
excel_minimize	Group A	0/15	0	0	0
pptx_run_slide	Group A	0/150	0	0	0

Table 1. Workload Event Latency Statistics

Operation	Group	Executed / Expected Count	Mean	Median	Variance
outlook_restore	Group B	0/15	0	0	0
pptx_append_slide	Group A	0/60	0	0	0
pptx_modify_slide	Group A	0/60	0	0	0
video_open_and_play	Group C	0/15	0	0	0

Figure 2. Mean latency plot Group A

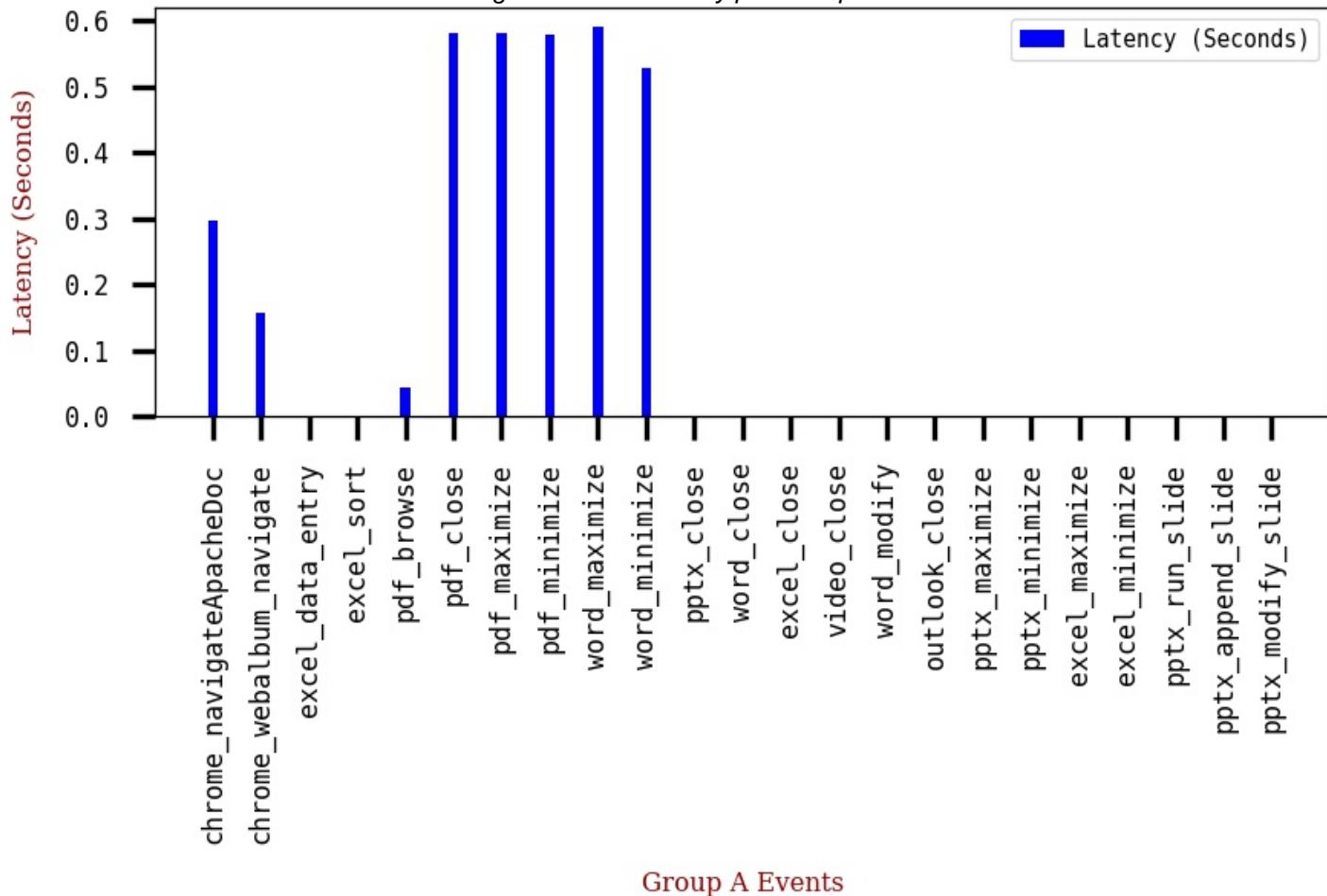


Figure 3. Mean latency plot Group B

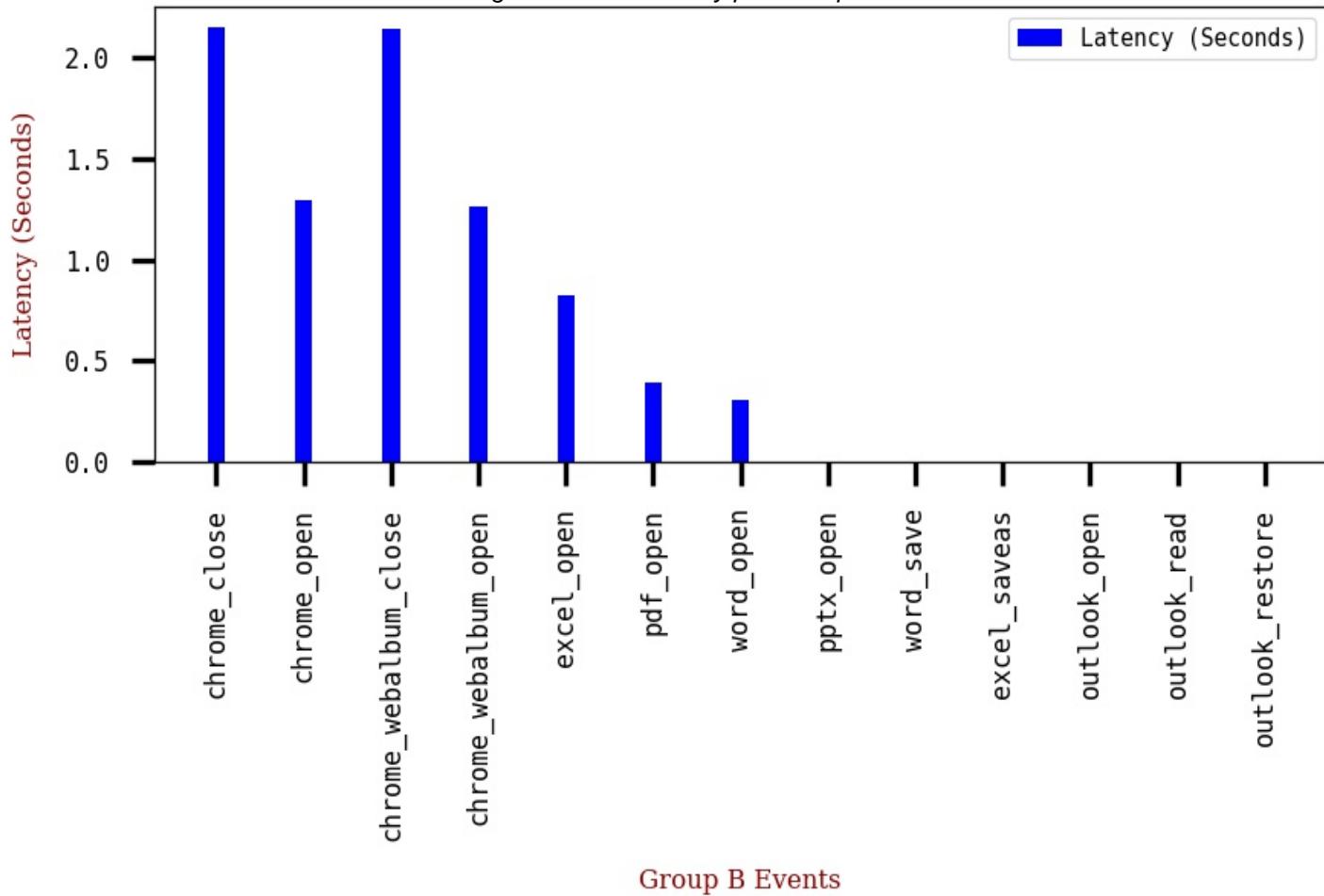


Figure 4. Mean latency plot Group C

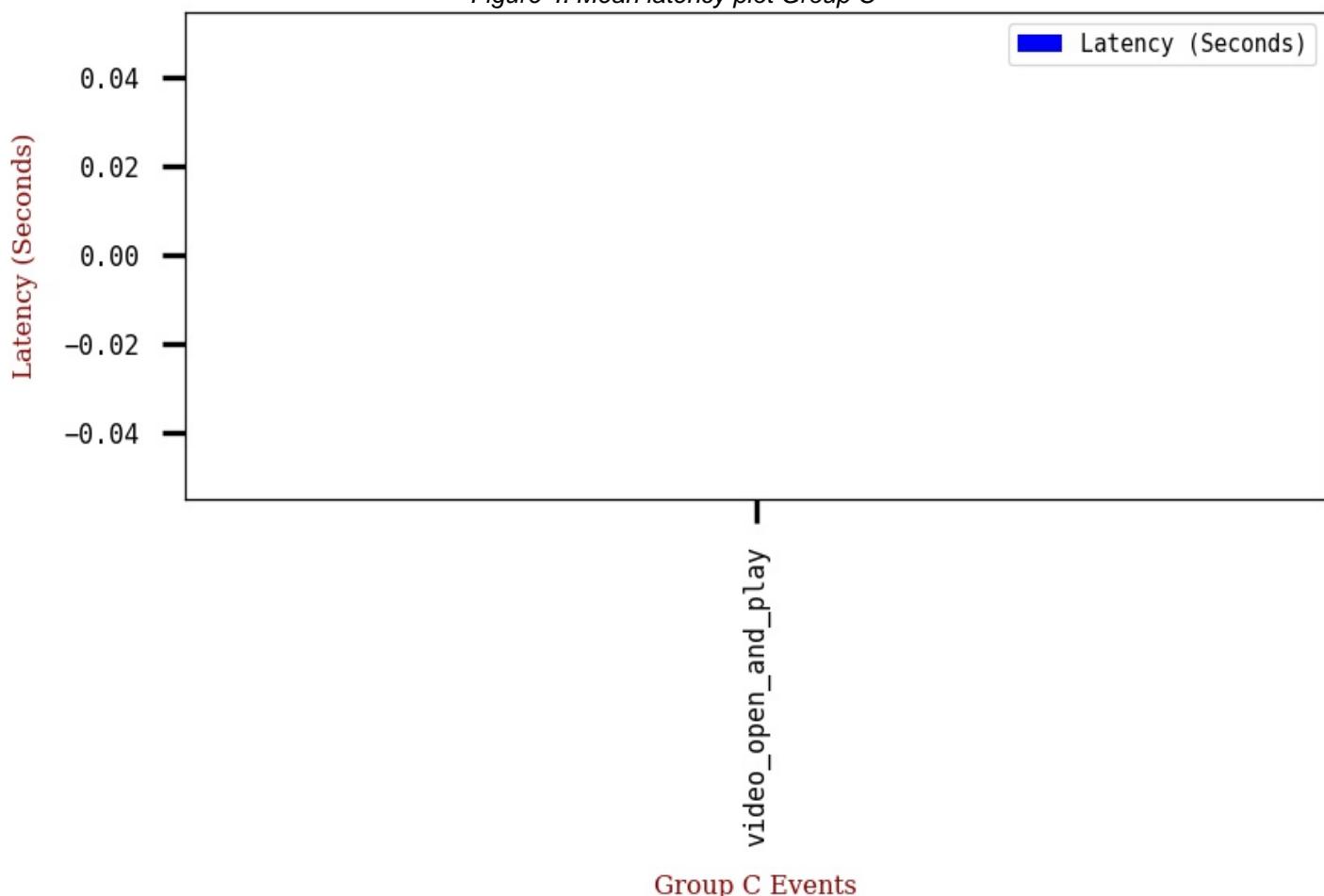
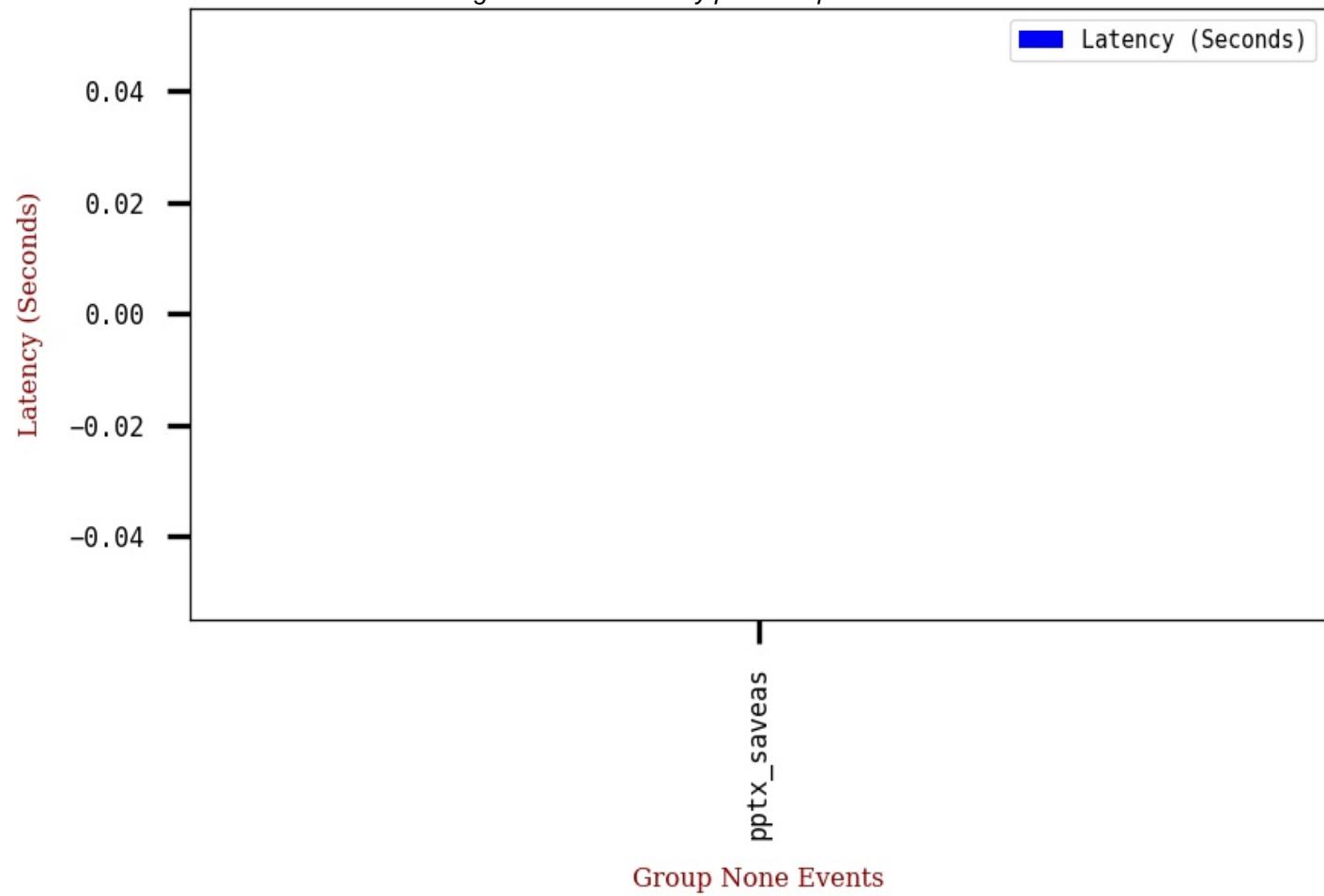


Figure 5. Mean latency plot Group None



5. Resource Usage

Table 2. Resource Usage of e01esx13.dc01.ssc.lan

Measurement	Average	Min	Max
CPU usage (percent)	4.0	3.42	7.27
CPU Core Utilization (percent)	3.56	3.07	6.31
CPU Utilization(percent)	1.86	1.61	3.28
Memory usage (percent)	39.74	39.6	39.79
Active Memory (GB)	71.51	69.11	76.04
Consumed Memory (GB)	426.6	425.16	427.15
Memory Balloon (GB)	0.0	0.0	0.0

Figure 6. e01esx13.dc01.ssc.lan : CPU

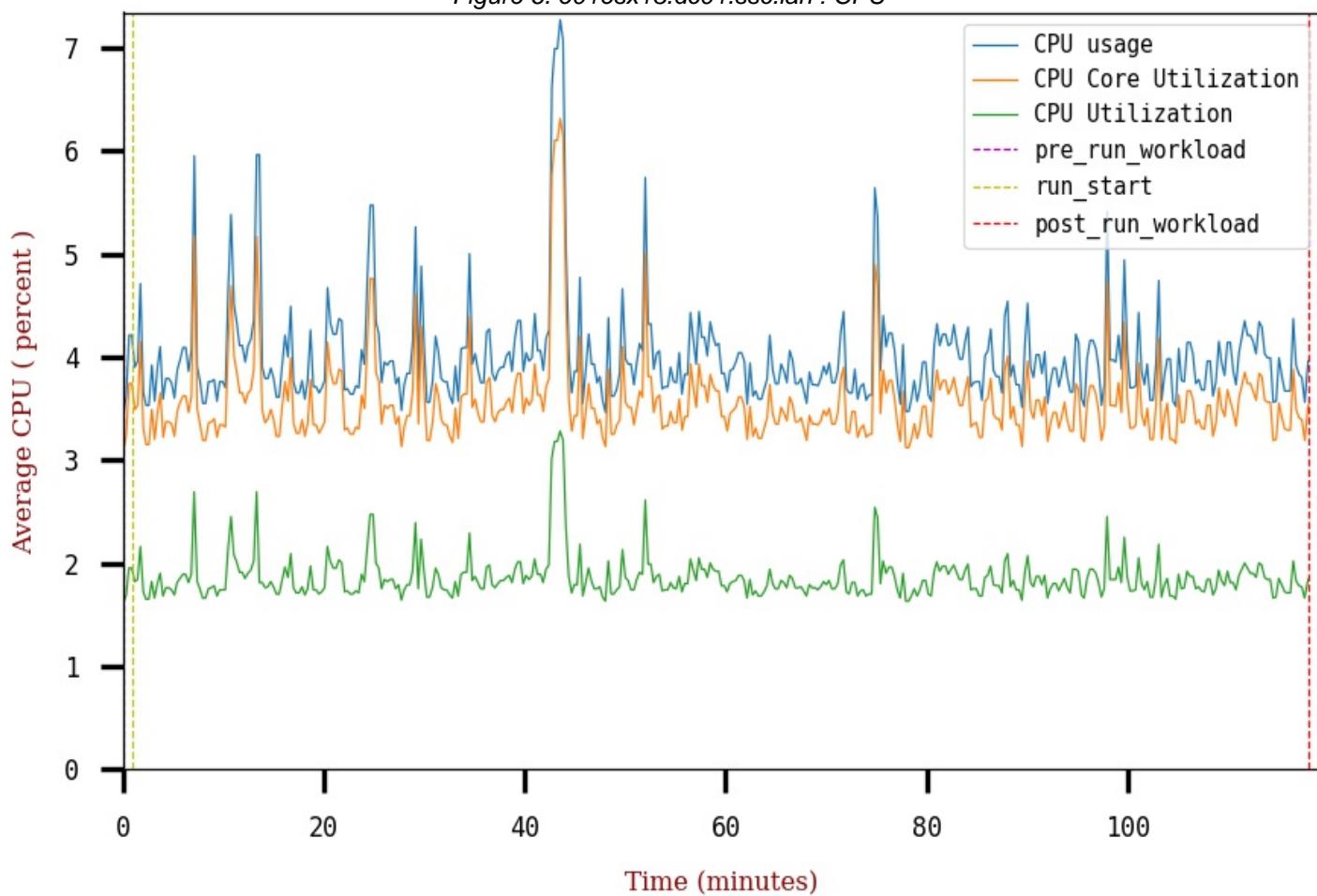


Figure 7. e01esx13.dc01.ssc.lan : Memory Usage

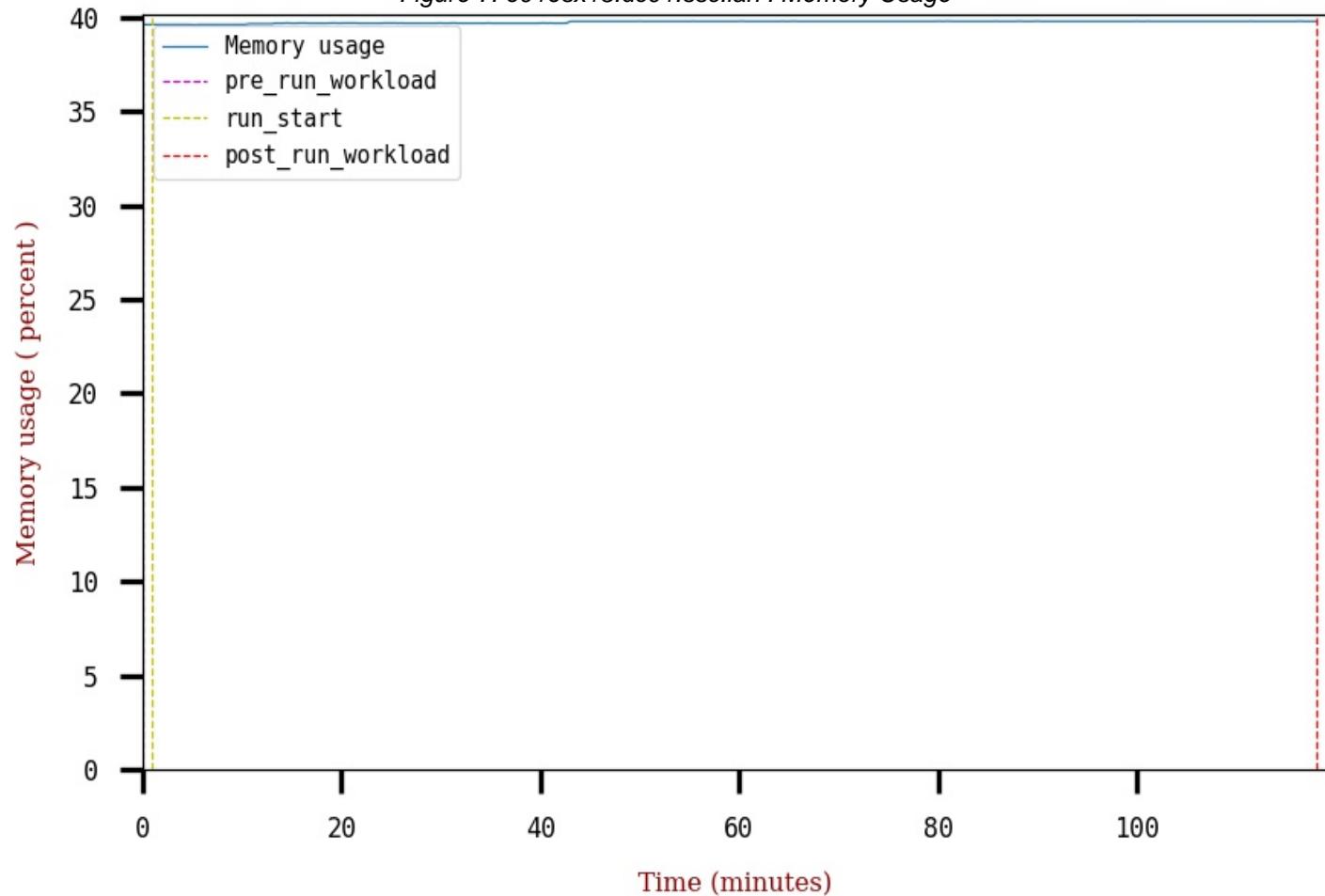


Figure 8. e01esx13.dc01.ssc.lan : Memory

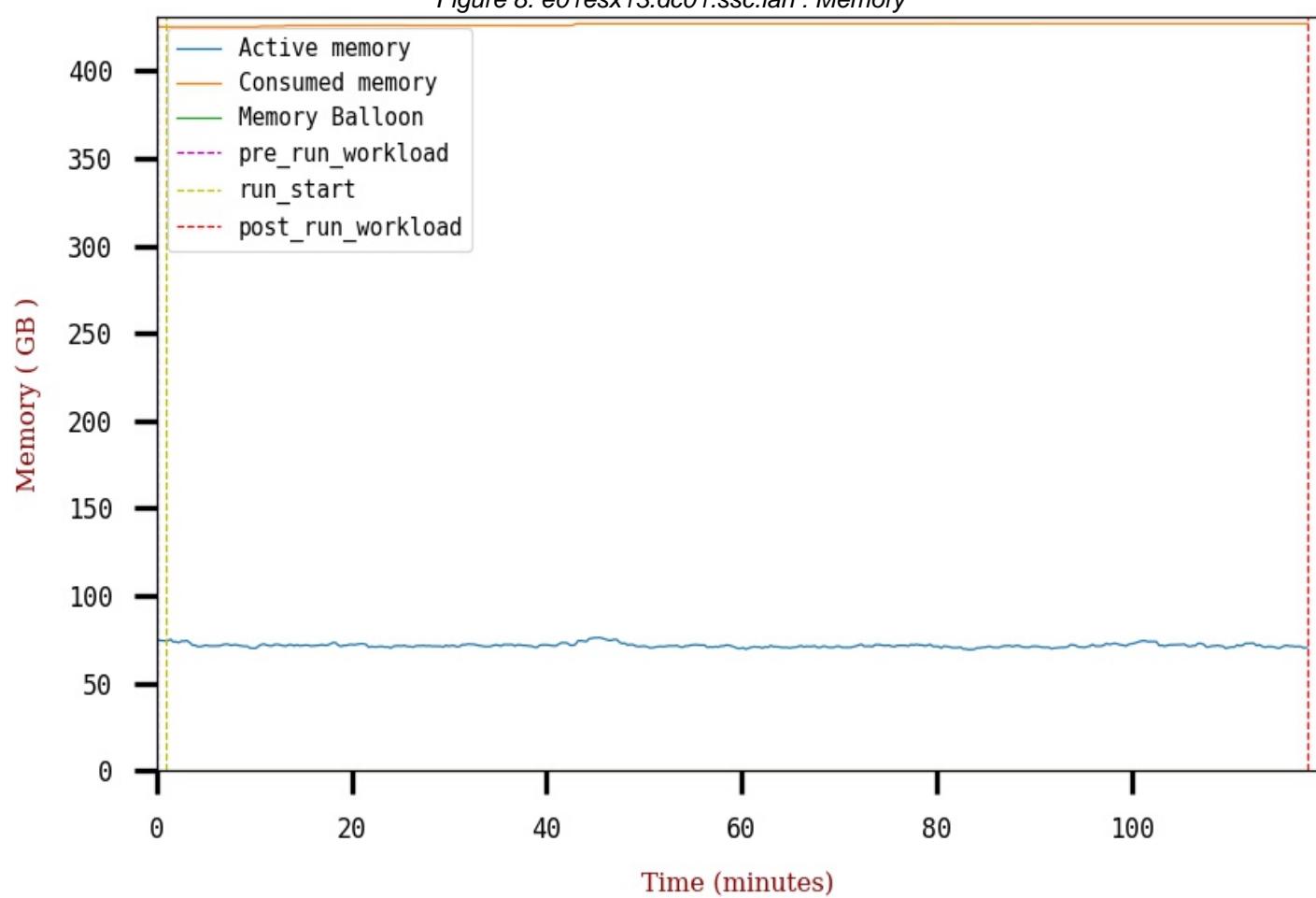


Figure 9. e01esx13.dc01.ssc.lan : Network Usage

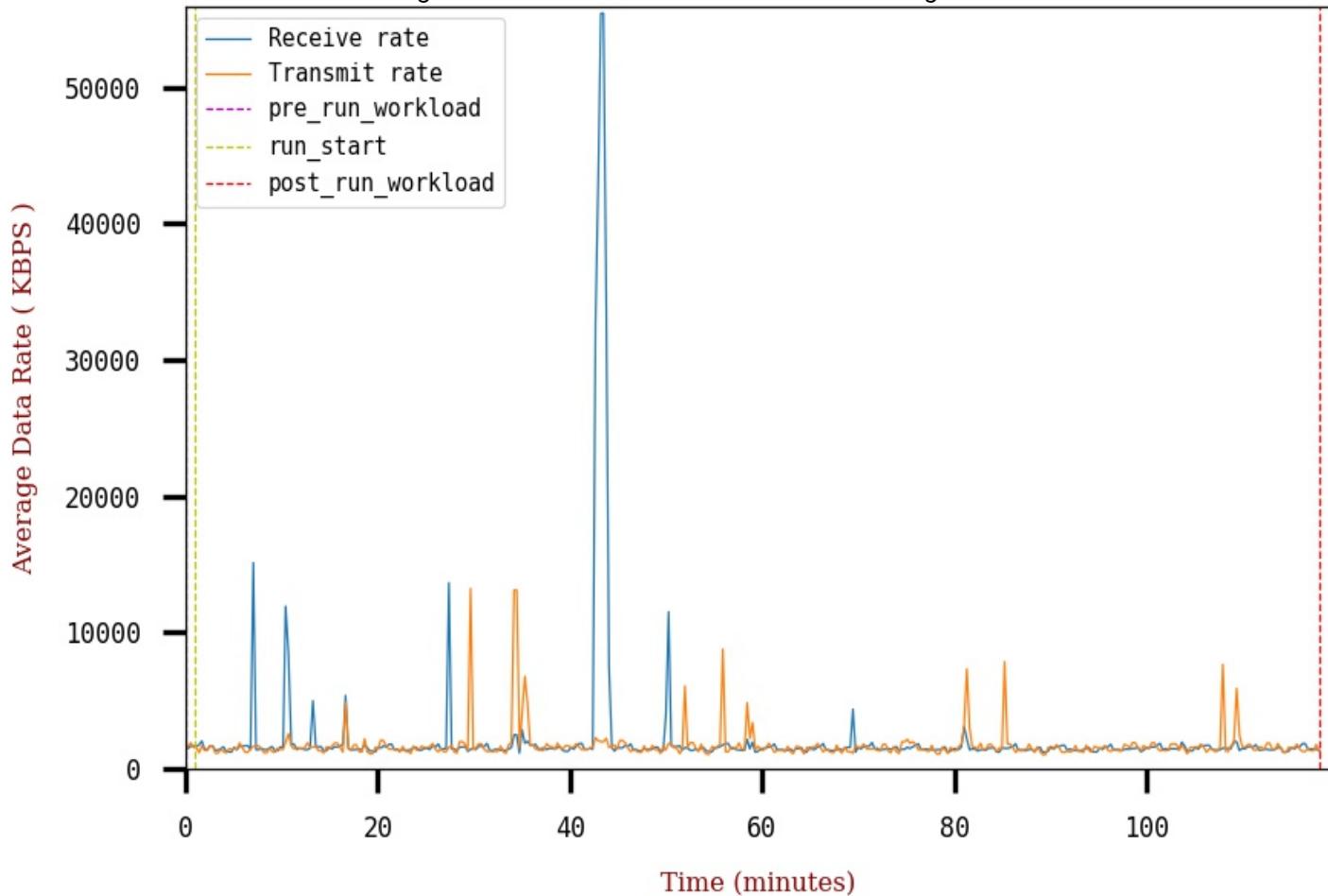


Figure 10. e01esx13.dc01.ssc.lan : Write Latency

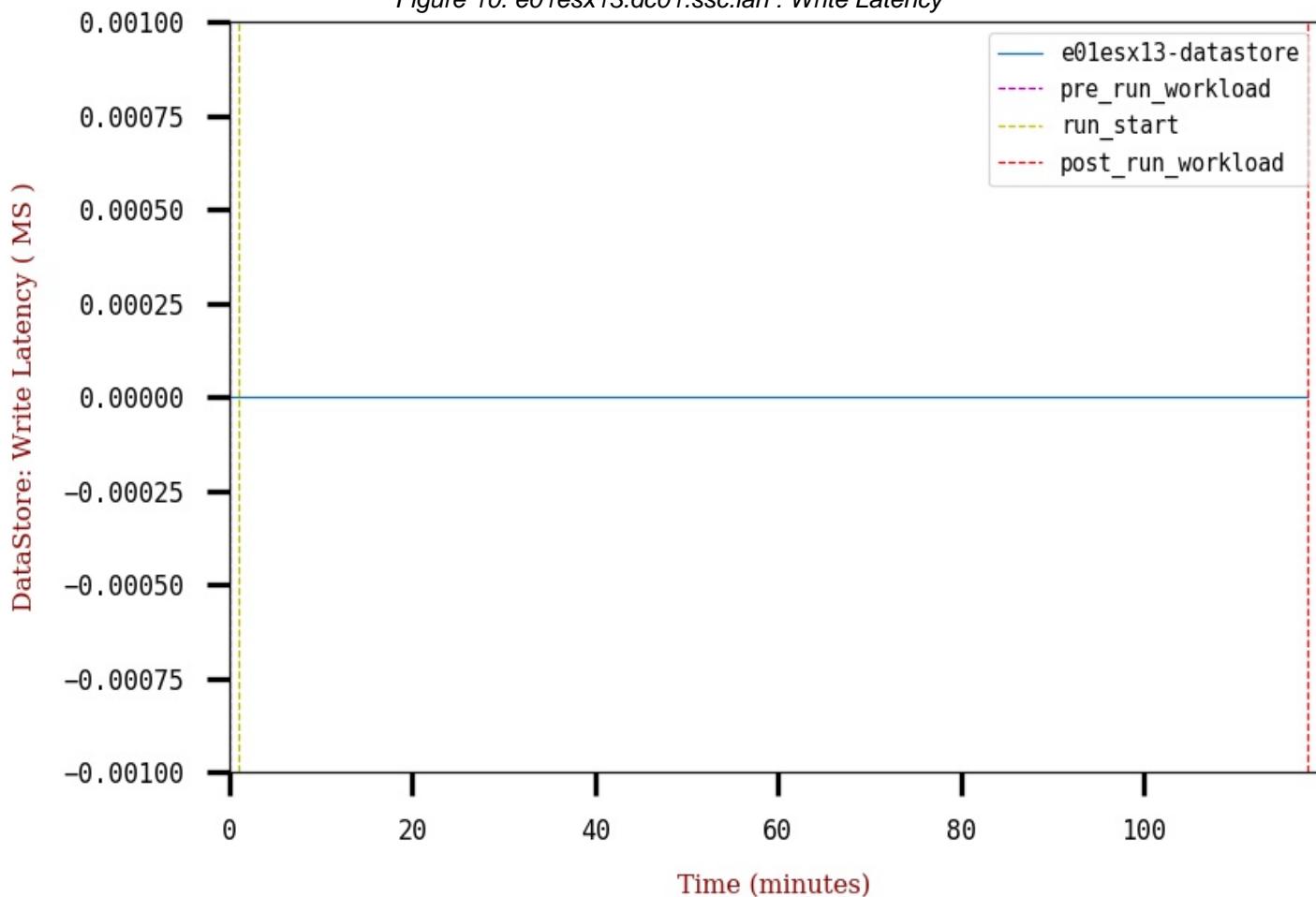


Figure 11. e01esx13.dc01.ssc.lan : Average write requests per second

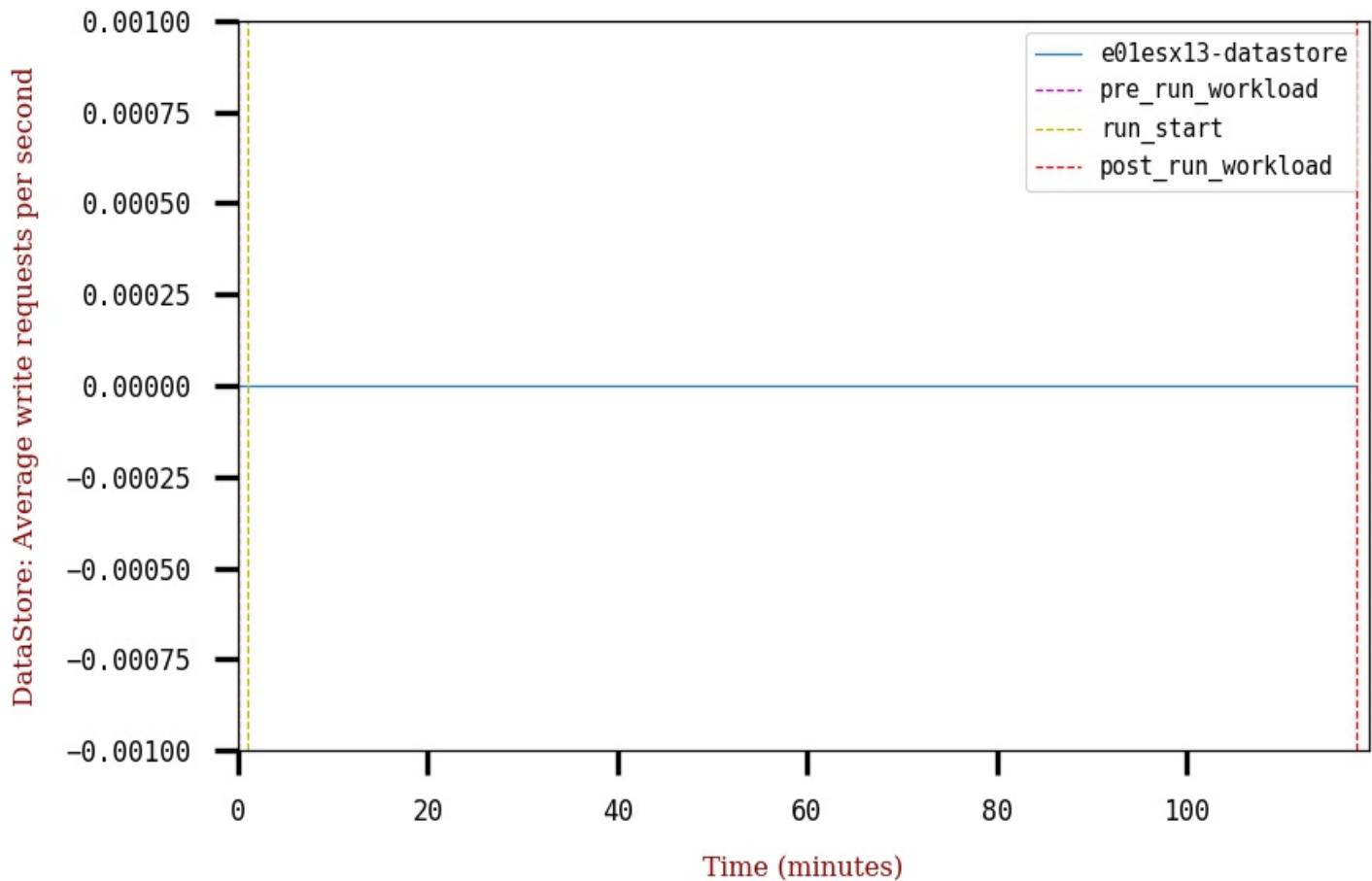


Figure 12. e01esx13.dc01.ssc.lan : Read Latency

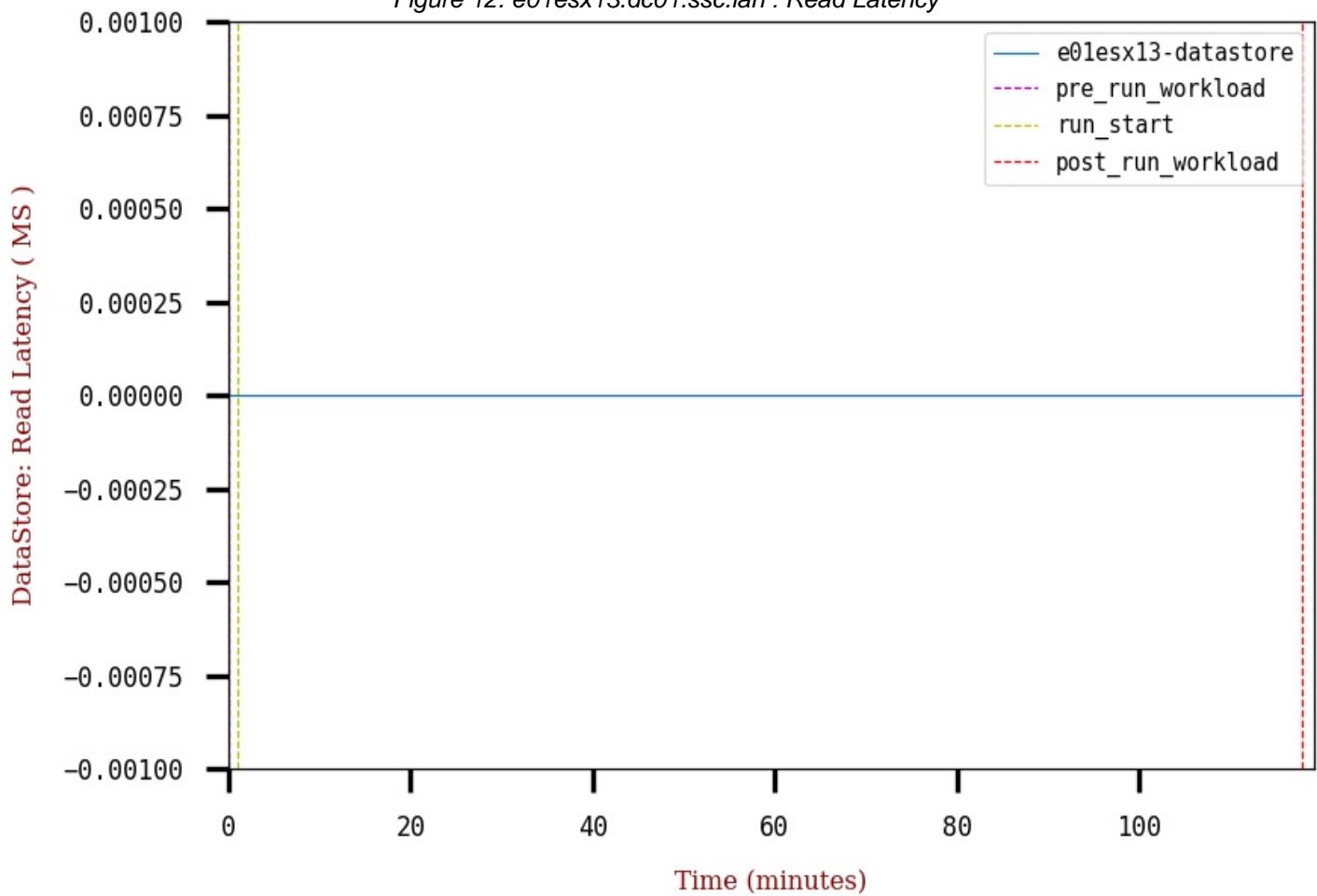


Figure 13. e01esx13.dc01.ssc.lan : Average read requests per second

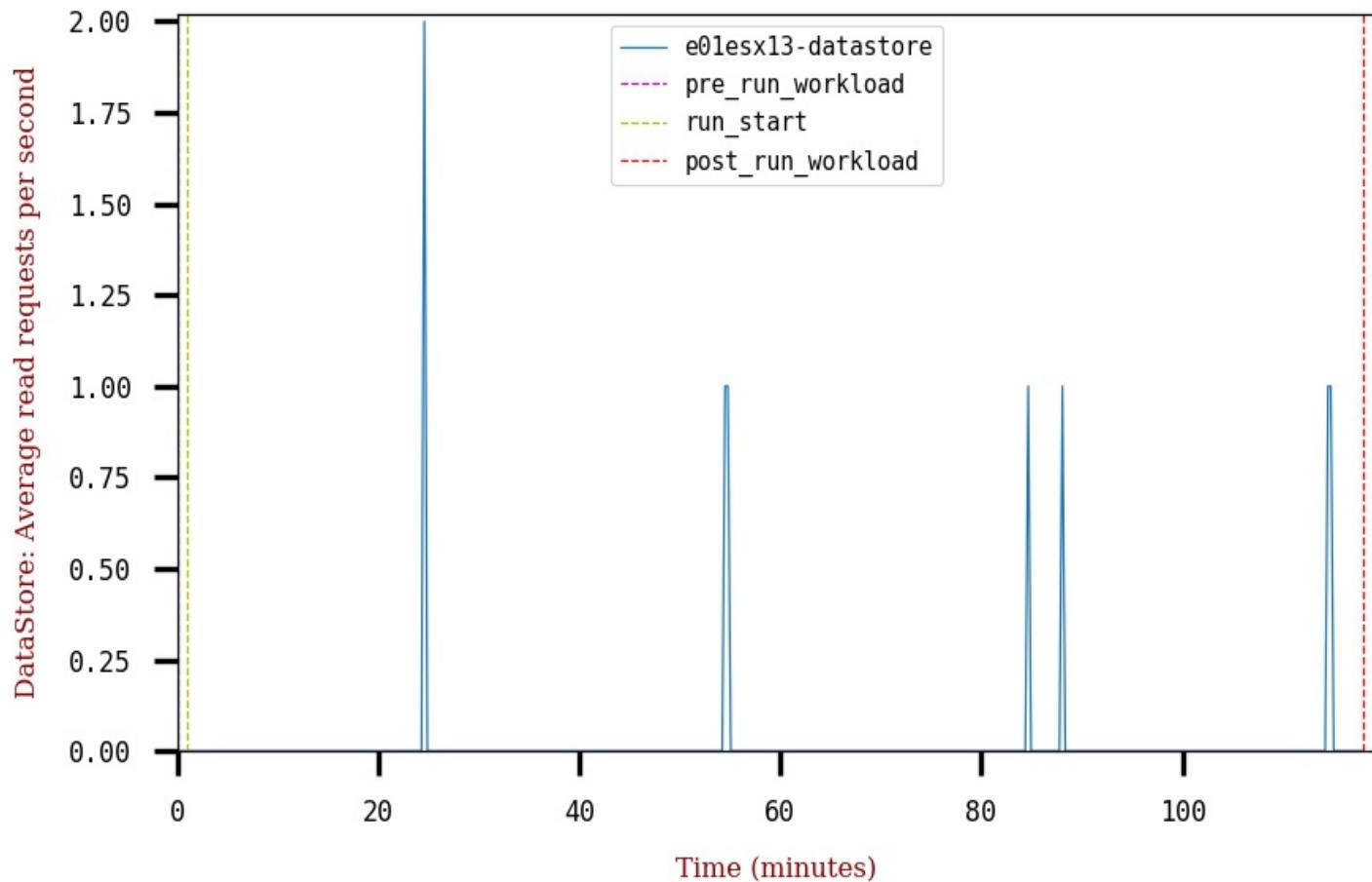


Table 3. Resource Usage of e01esx11.dc01.ssc.lan

Measurement	Average	Min	Max
CPU usage (percent)	5.58	4.36	10.68
CPU Core Utilization (percent)	5.76	4.26	10.15
CPU Utilization(percent)	2.99	2.21	5.29
Memory usage (percent)	38.91	38.74	38.96
Active Memory (GB)	72.61	70.2	76.54
Consumed Memory (GB)	417.68	415.92	418.21
Memory Balloon (GB)	0.0	0.0	0.0

Figure 14. e01esx11.dc01.ssc.lan : CPU

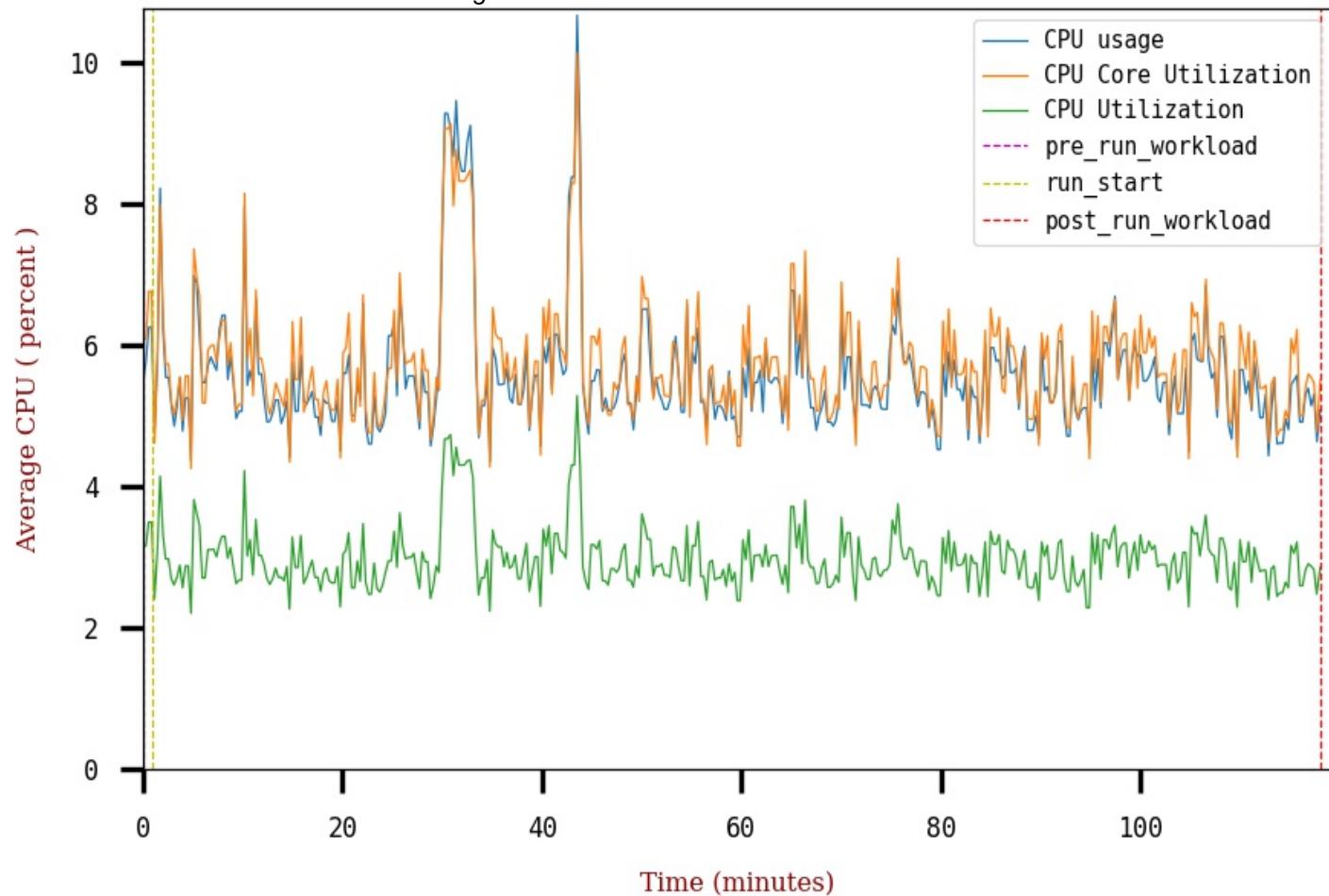


Figure 15. e01esx11.dc01.ssc.lan : Memory Usage

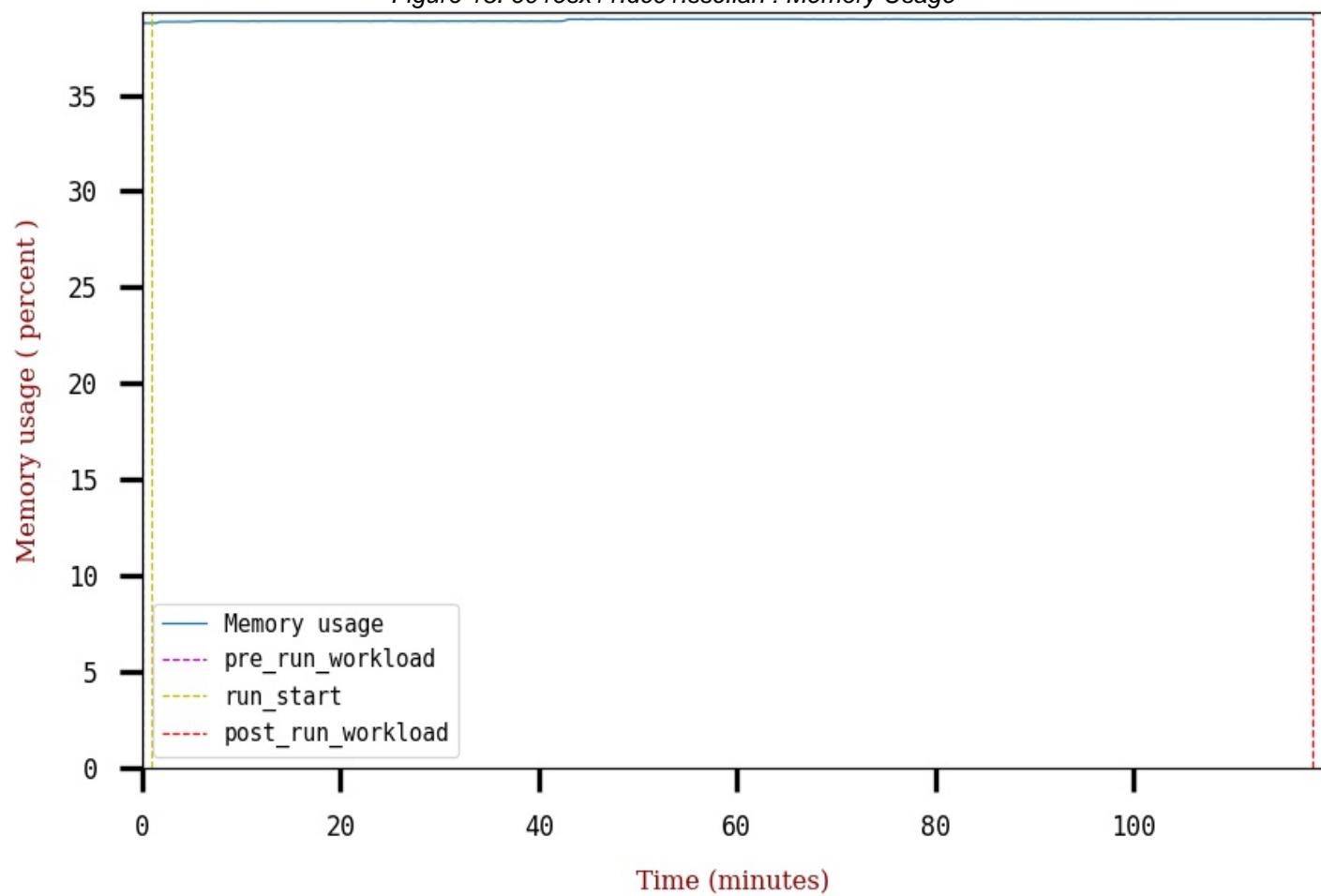


Figure 16. e01esx11.dc01.ssc.lan : Memory

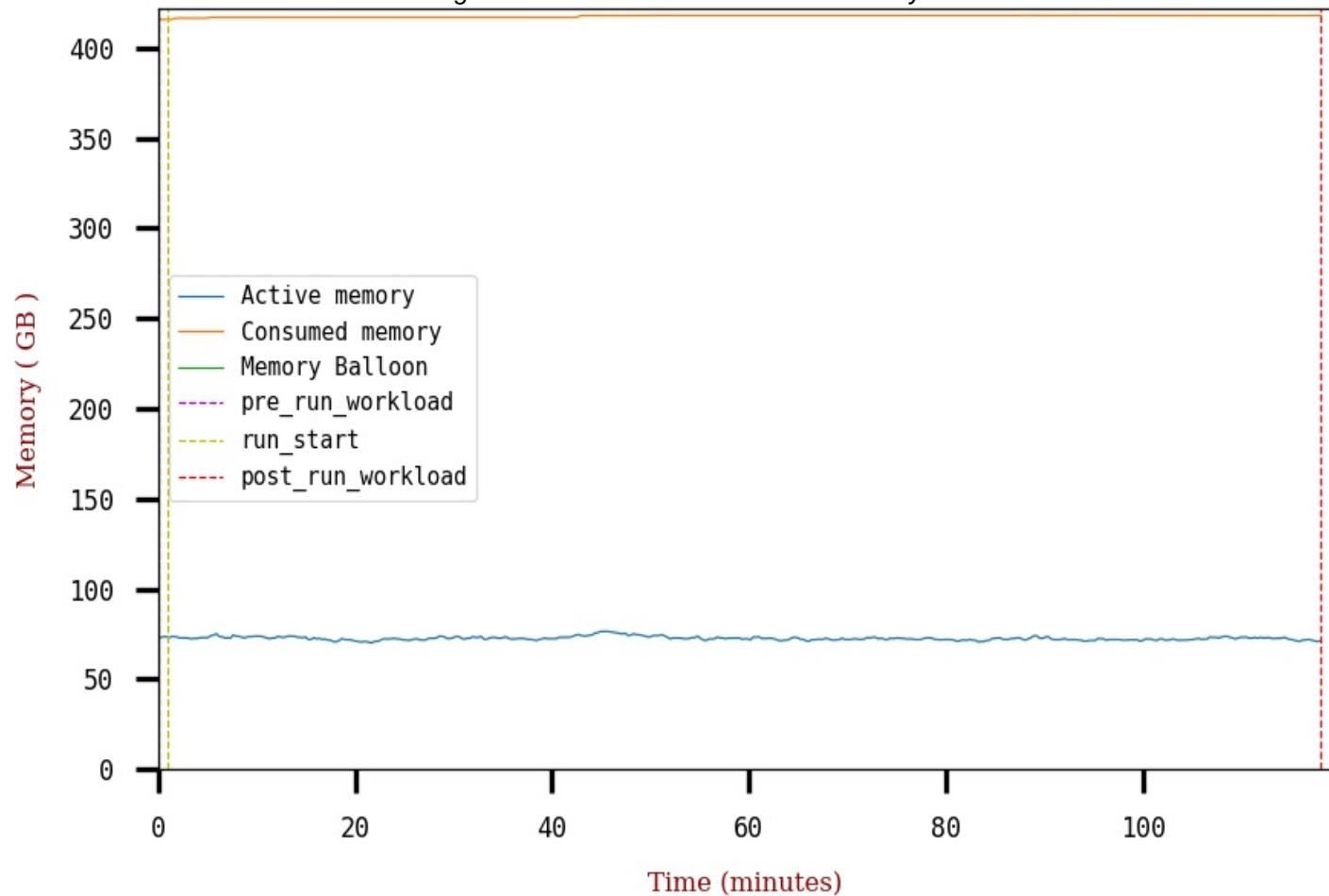


Figure 17. e01esx11.dc01.ssc.lan : Network Usage

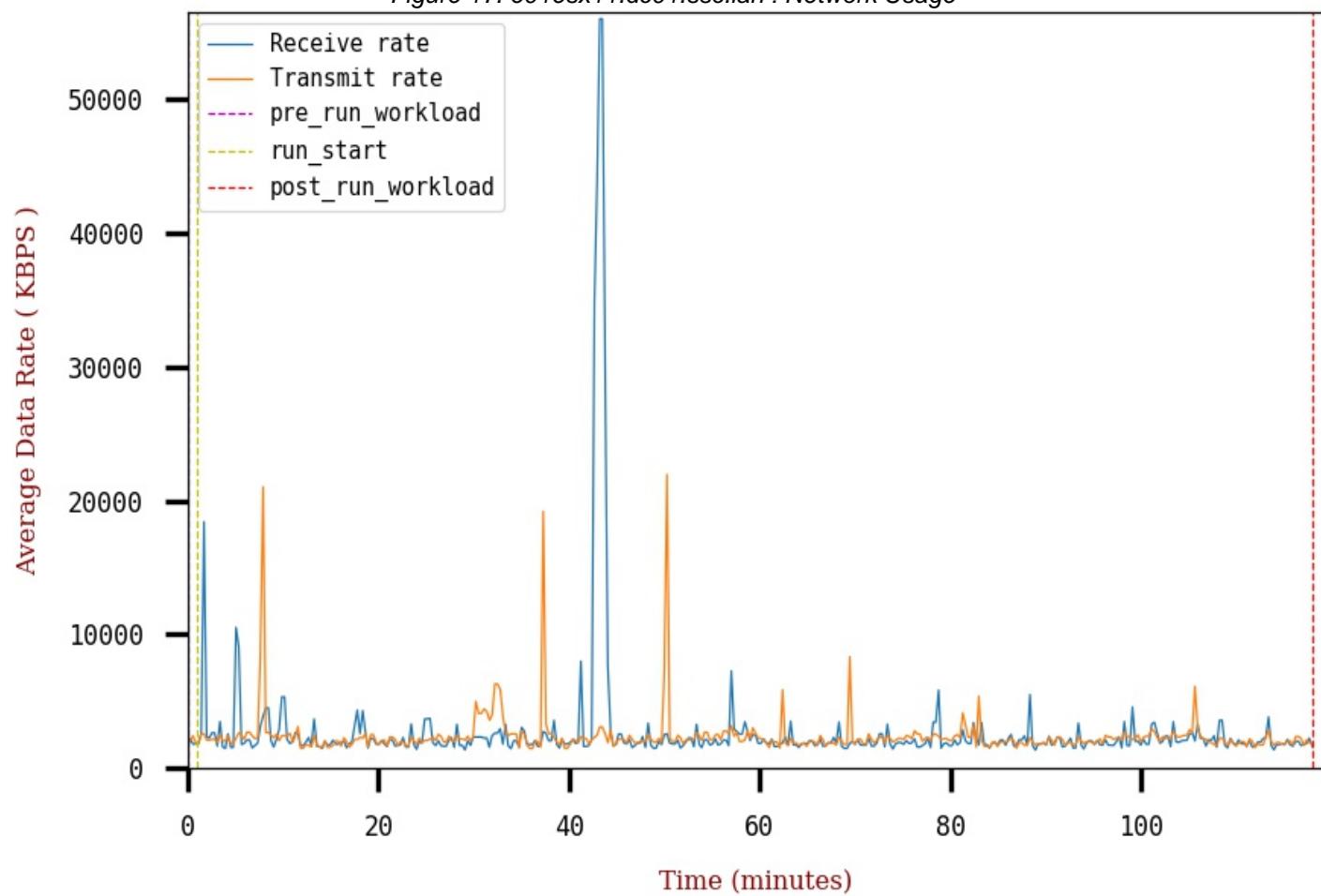


Figure 18. e01esx11.dc01.ssc.lan : Write Latency

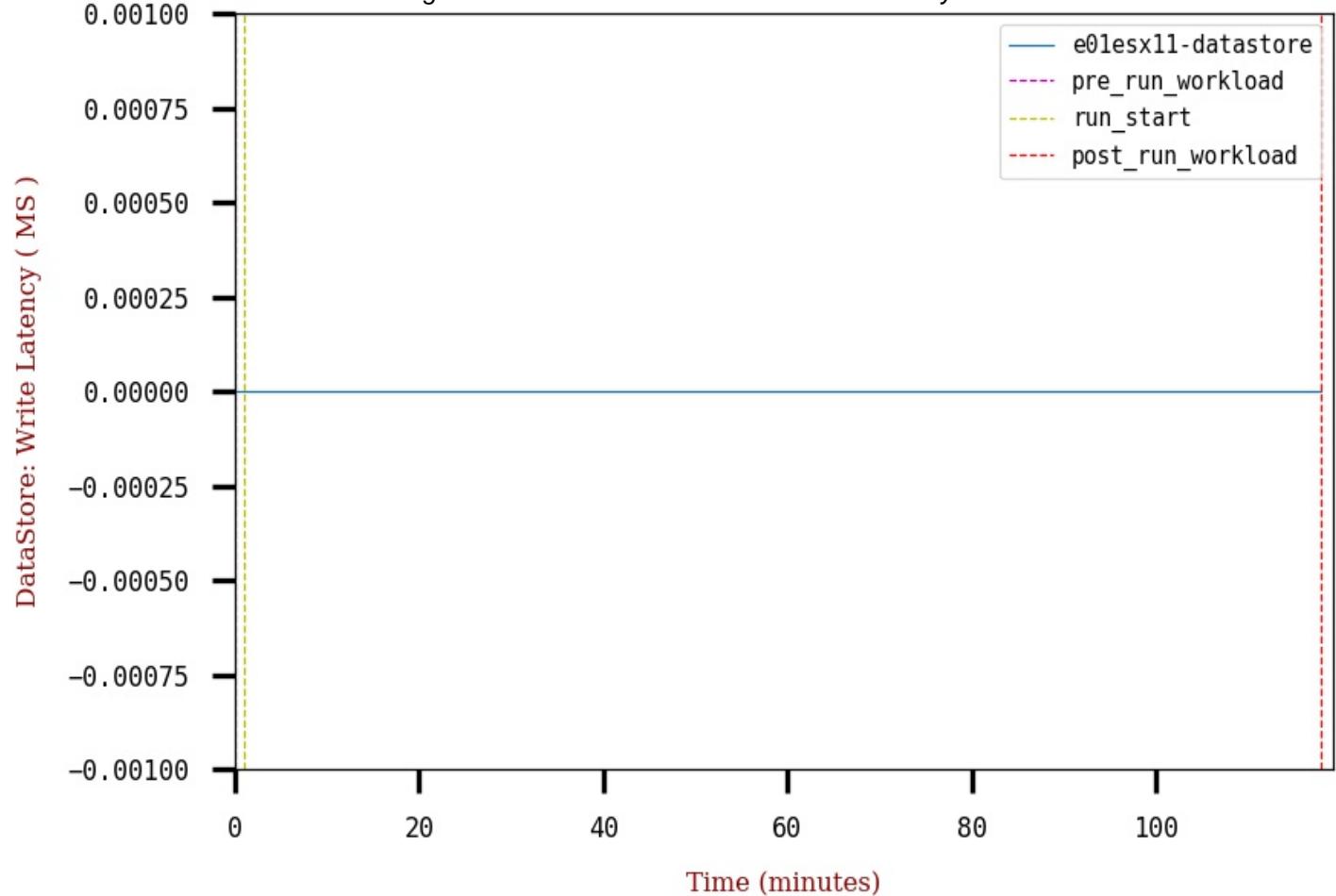


Figure 19. e01esx11.dc01.ssc.lan : Average write requests per second

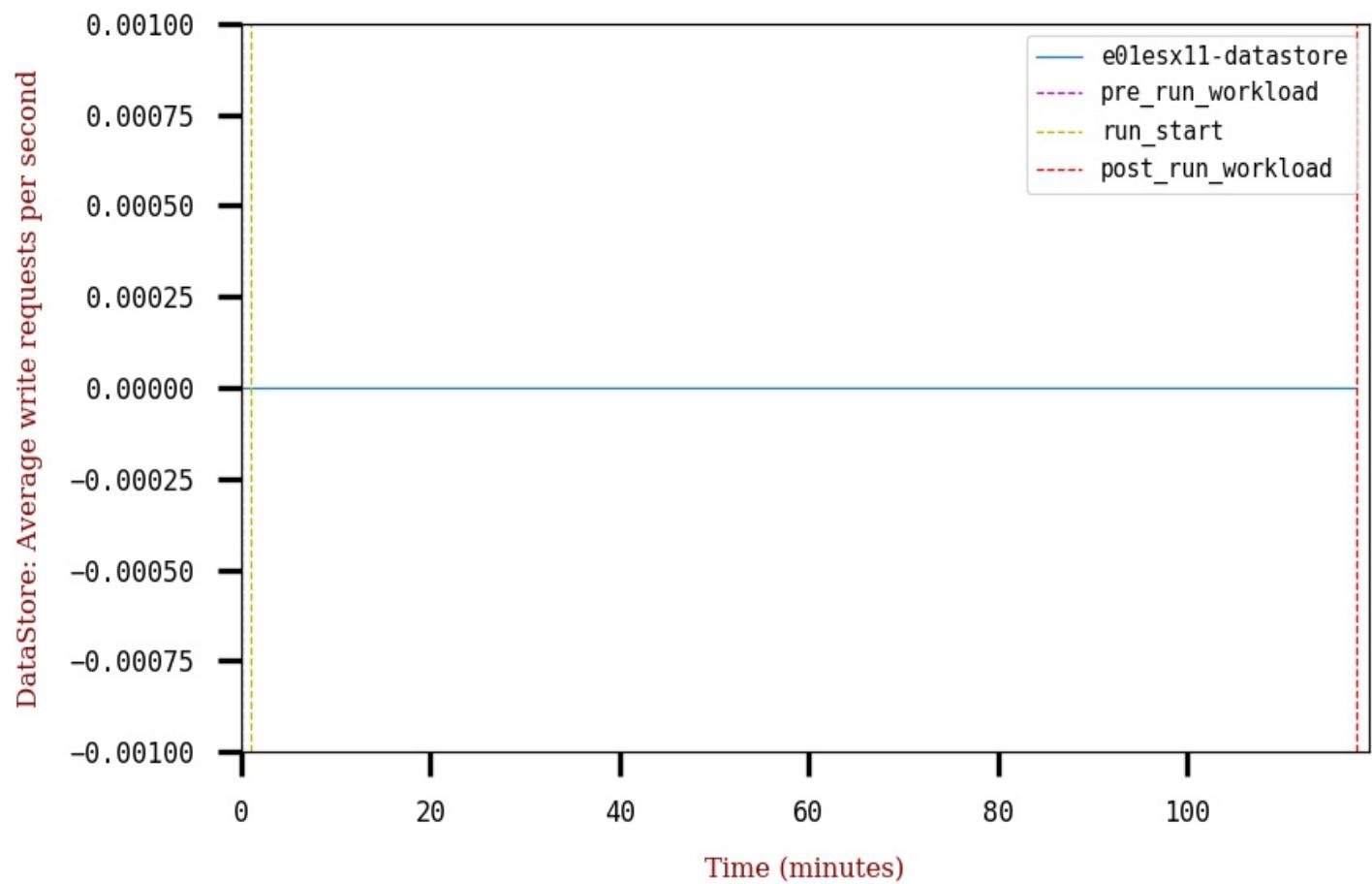


Figure 20. e01esx11.dc01.ssc.lan : Read Latency

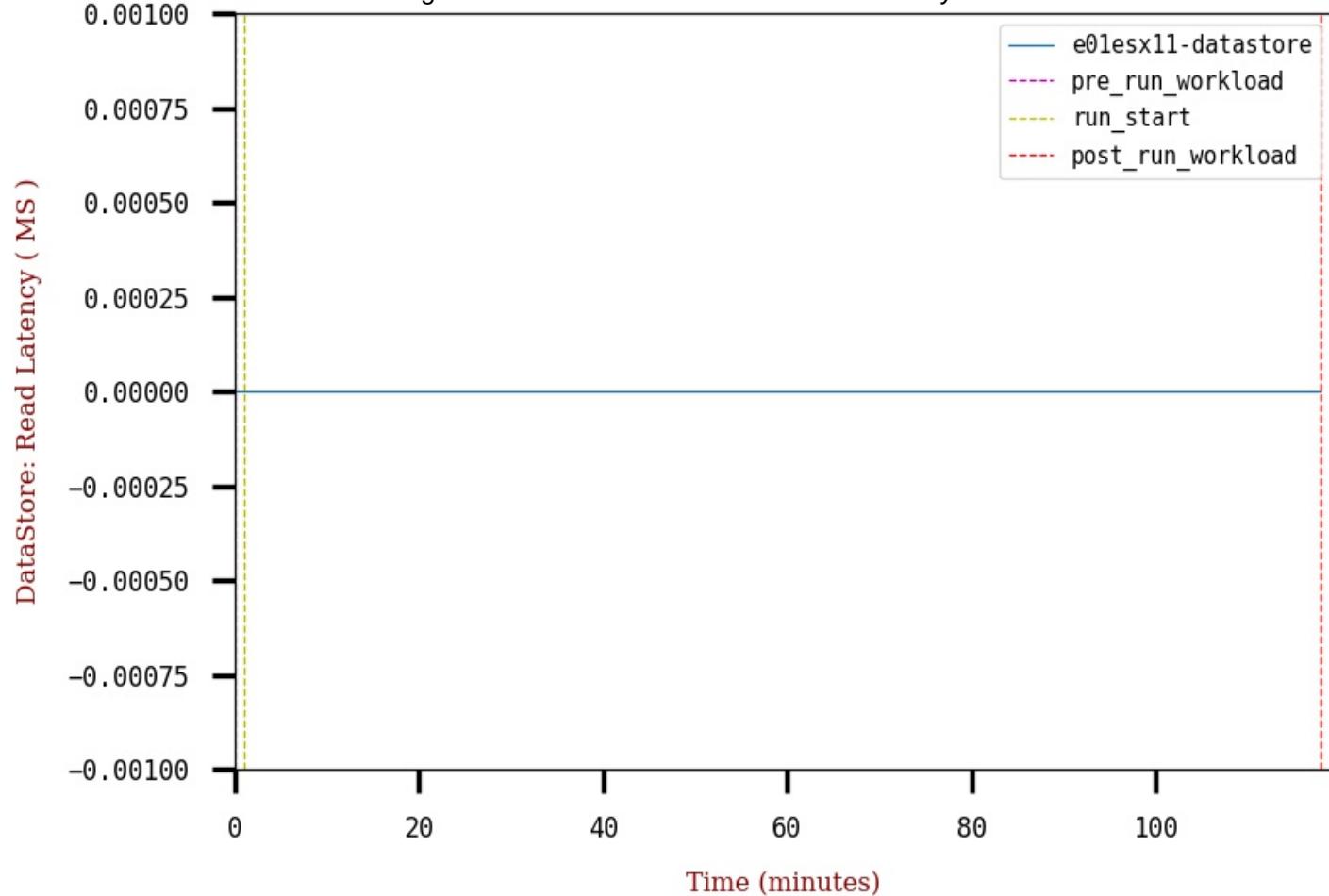


Figure 21. e01esx11.dc01.ssc.lan : Average read requests per second

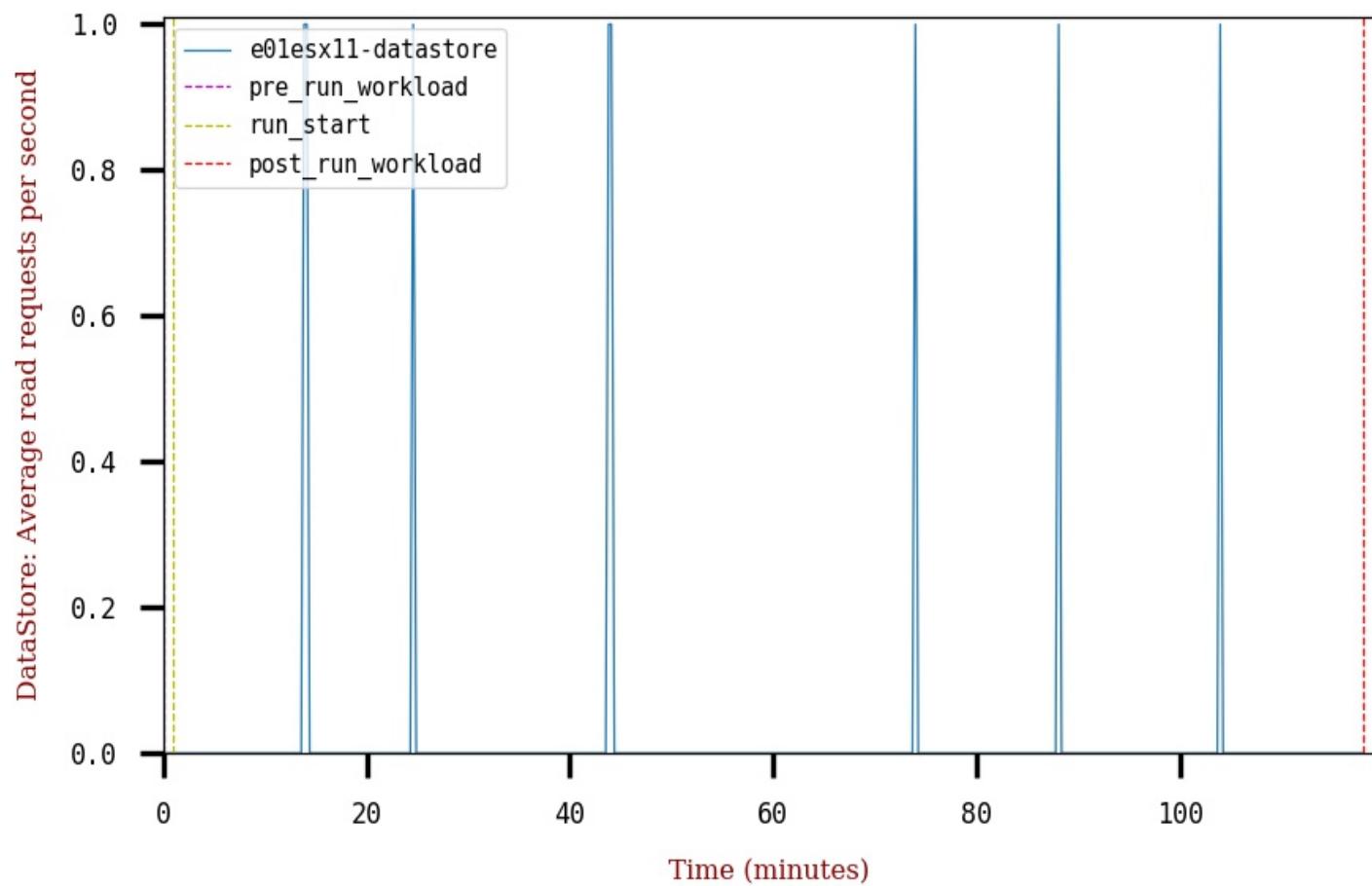


Table 4. Resource Usage of e01esx15.dc01.ssc.lan

Measurement	Average	Min	Max
CPU usage (percent)	5.54	4.51	9.98
CPU Core Utilization (percent)	5.73	4.48	9.88
CPU Utilization(percent)	2.97	2.34	5.09
Memory usage (percent)	39.5	39.44	39.55
Active Memory (GB)	72.85	70.66	77.3
Consumed Memory (GB)	424.09	423.36	424.58
Memory Balloon (GB)	0.0	0.0	0.0

Figure 22. e01esx15.dc01.ssc.lan : CPU

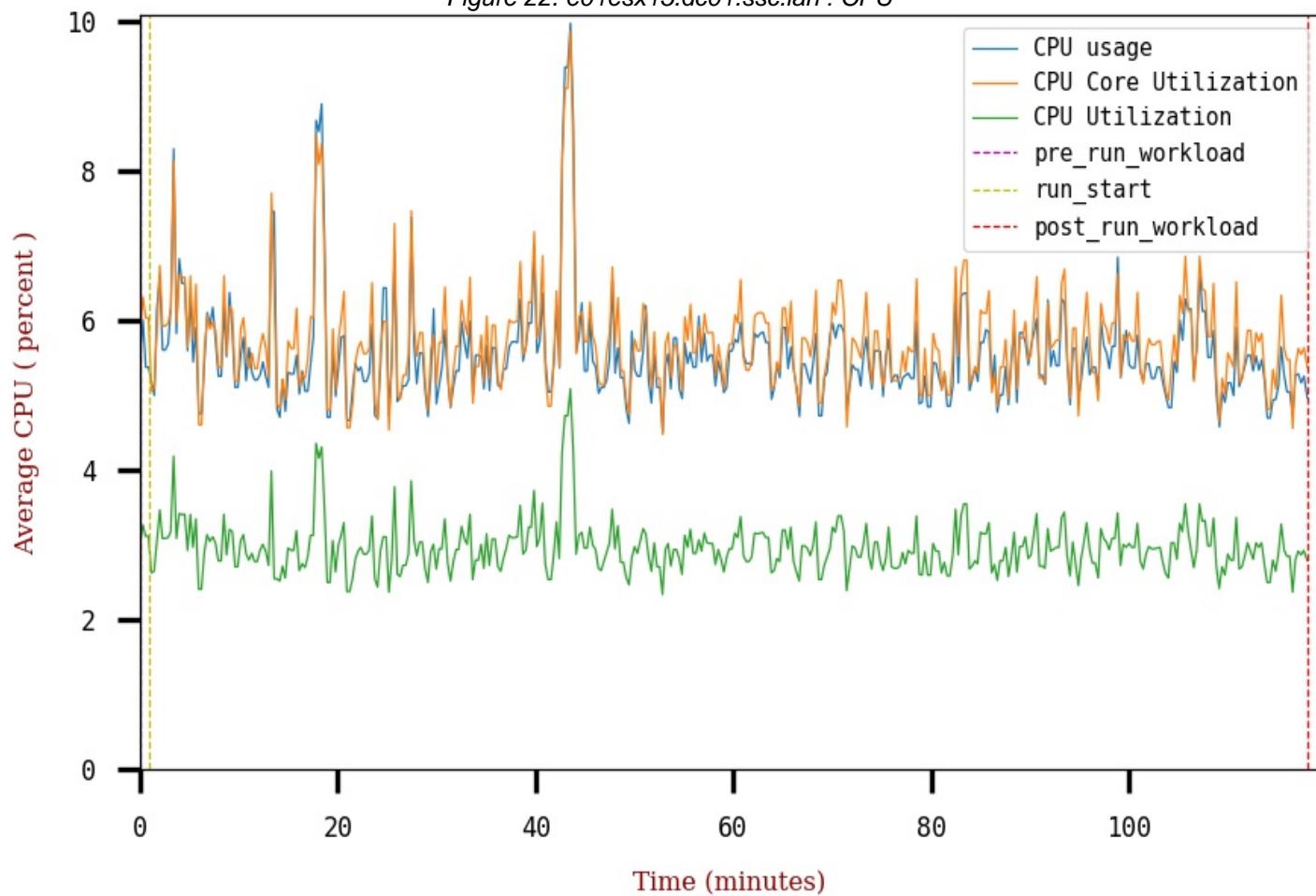


Figure 23. e01esx15.dc01.ssc.lan : Memory Usage

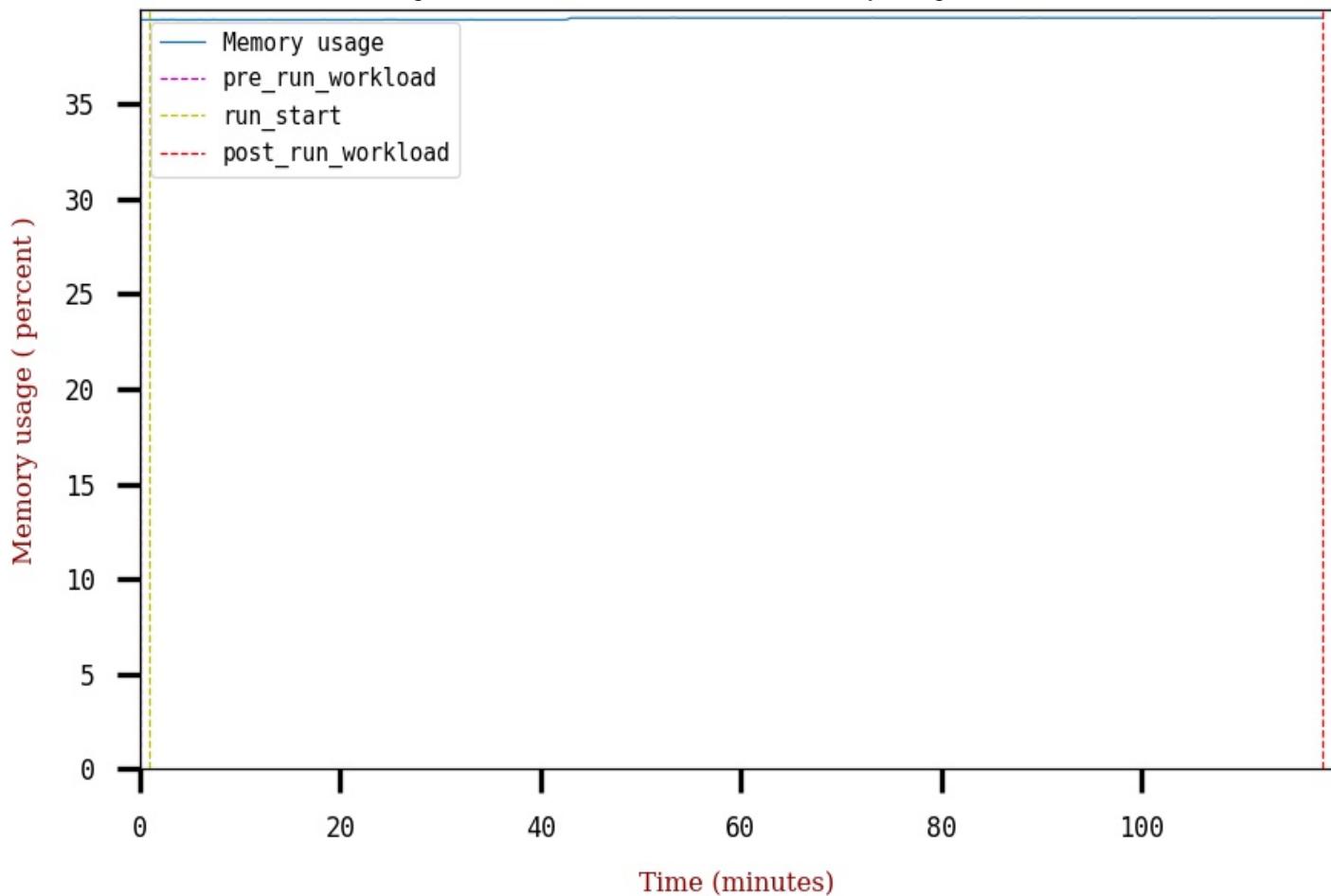


Figure 24. e01esx15.dc01.ssc.lan : Memory

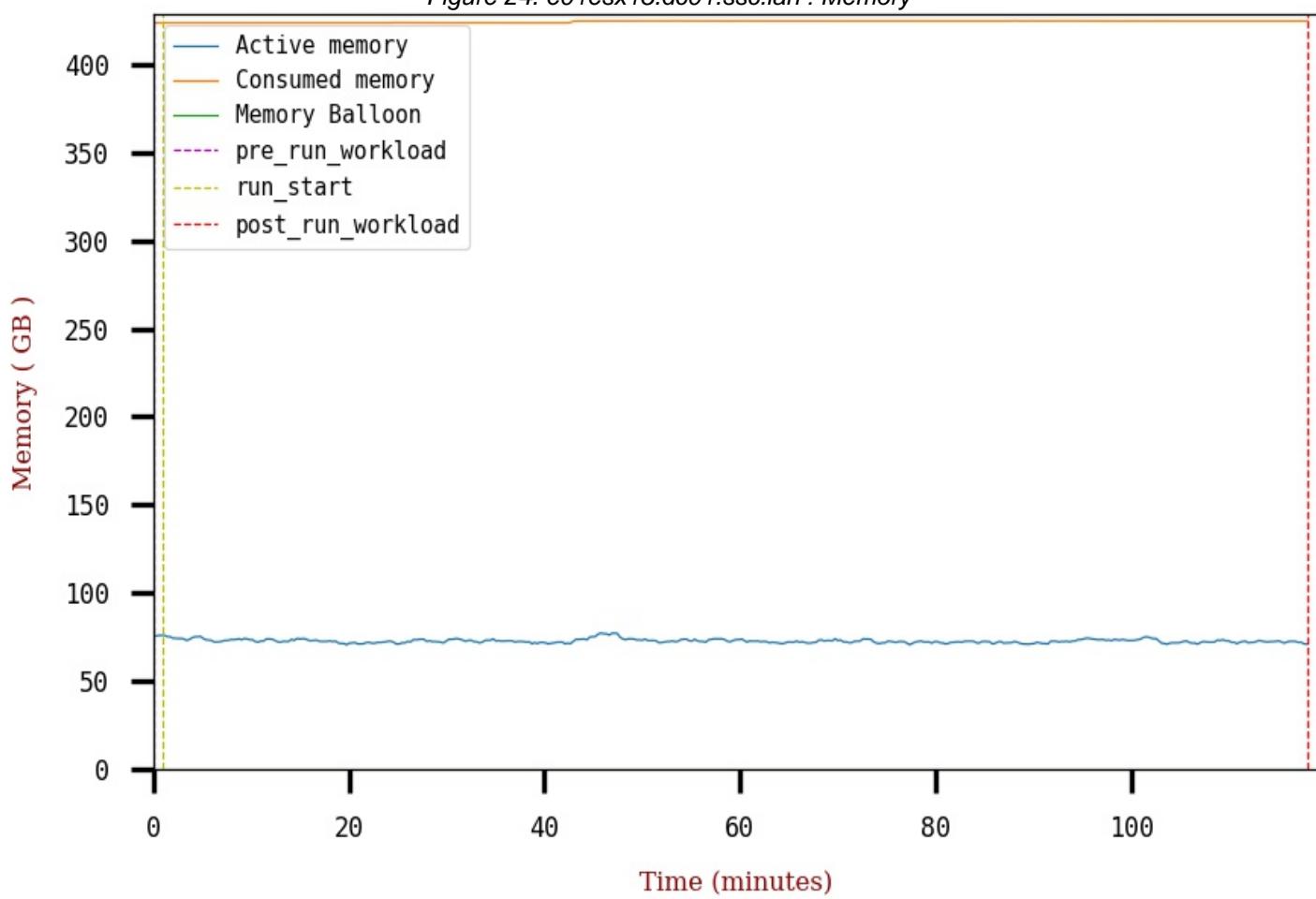


Figure 25. e01esx15.dc01.ssc.lan : Network Usage

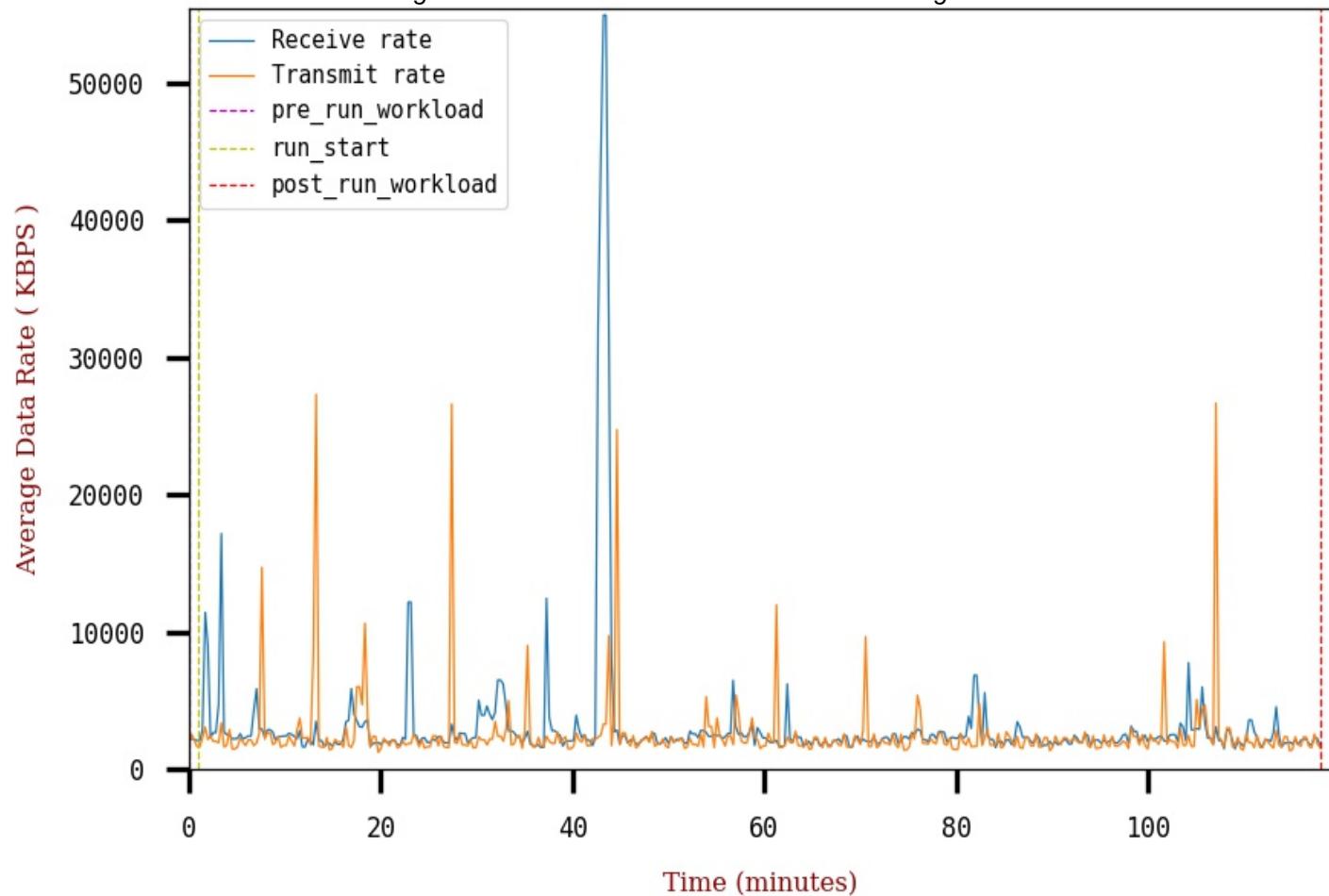


Figure 26. e01esx15.dc01.ssc.lan : Write Latency

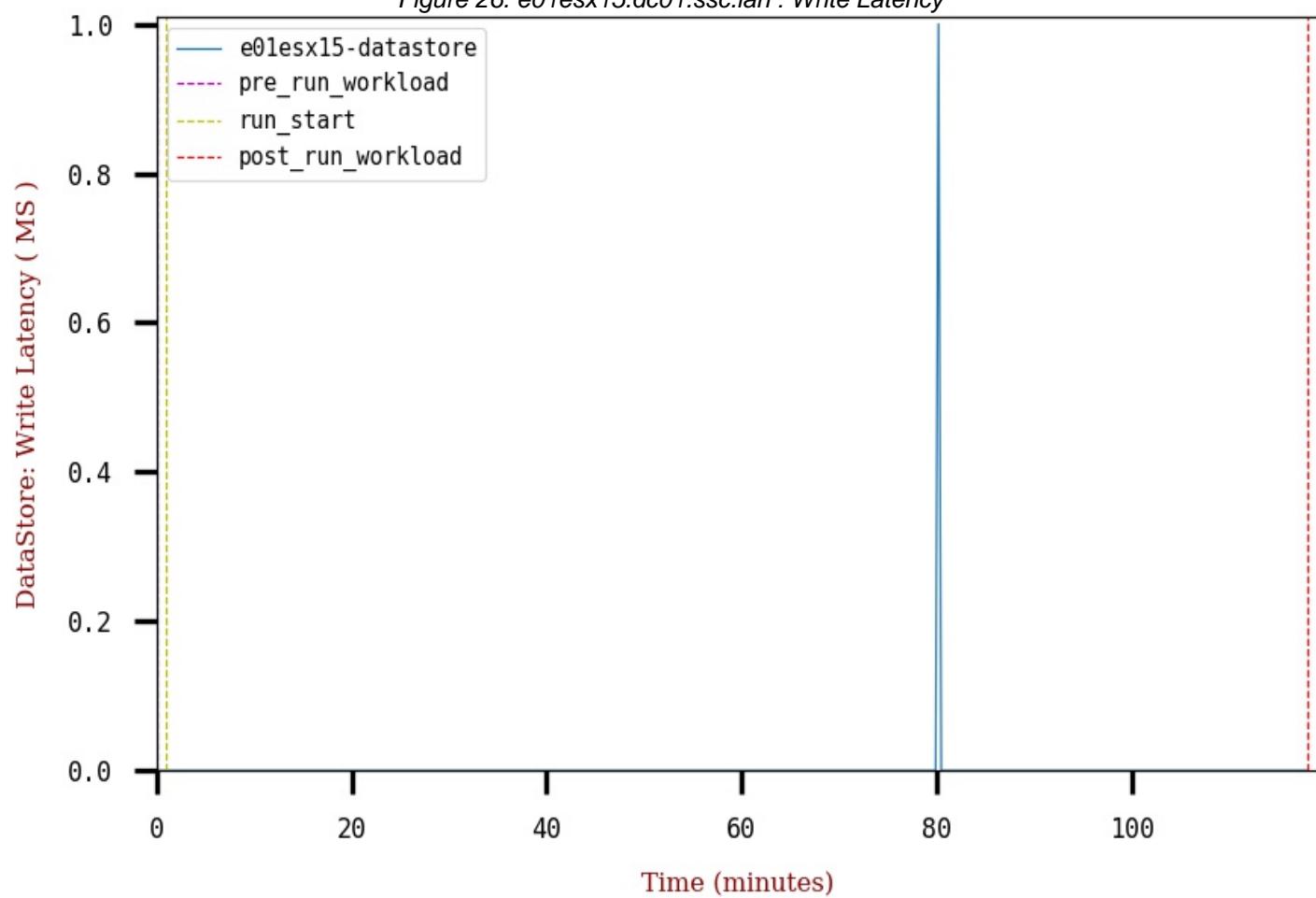


Figure 27. e01esx15.dc01.ssc.lan : Average write requests per second

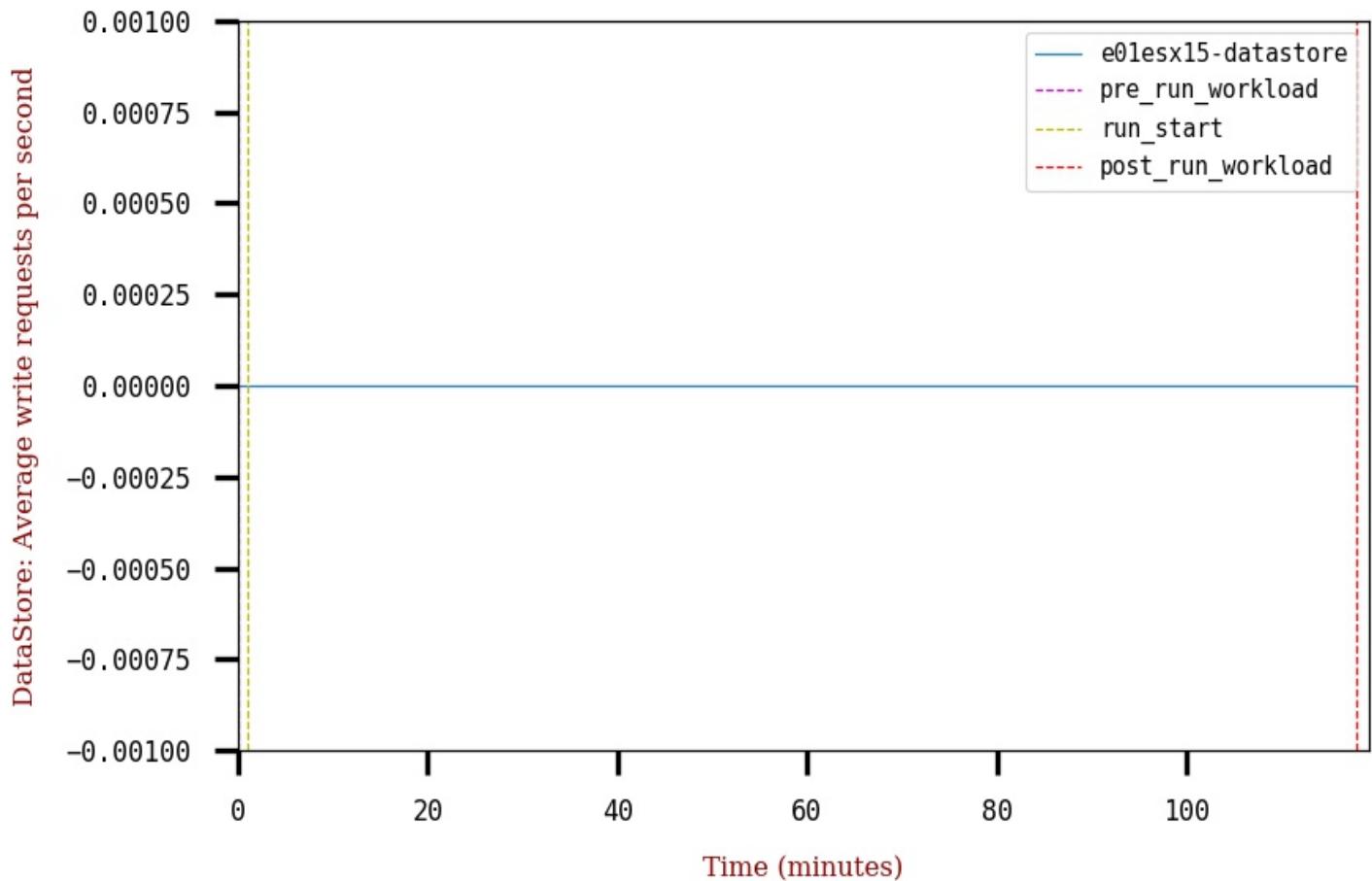


Figure 28. e01esx15.dc01.ssc.lan : Read Latency

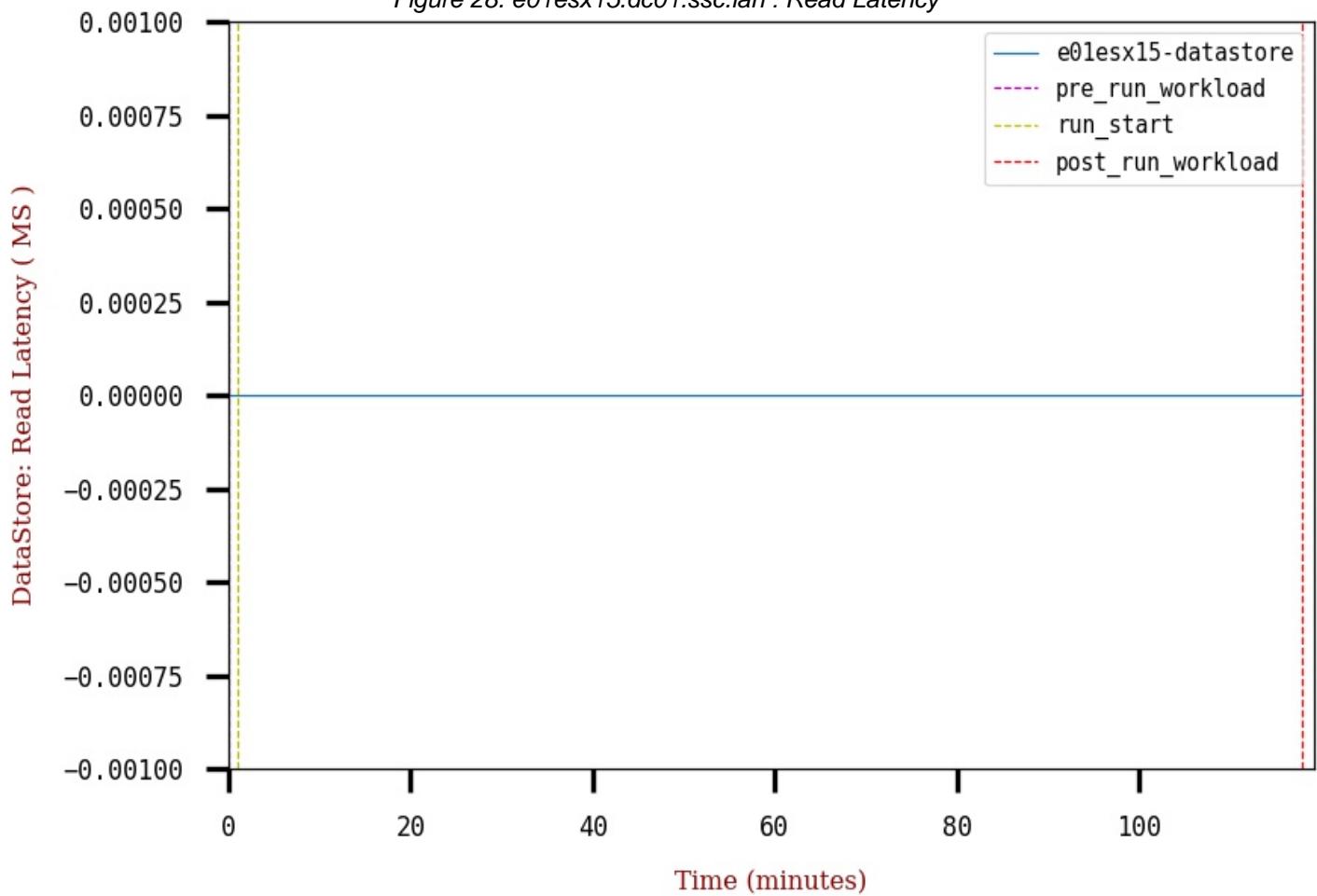


Figure 29. e01esx15.dc01.ssc.lan : Average read requests per second

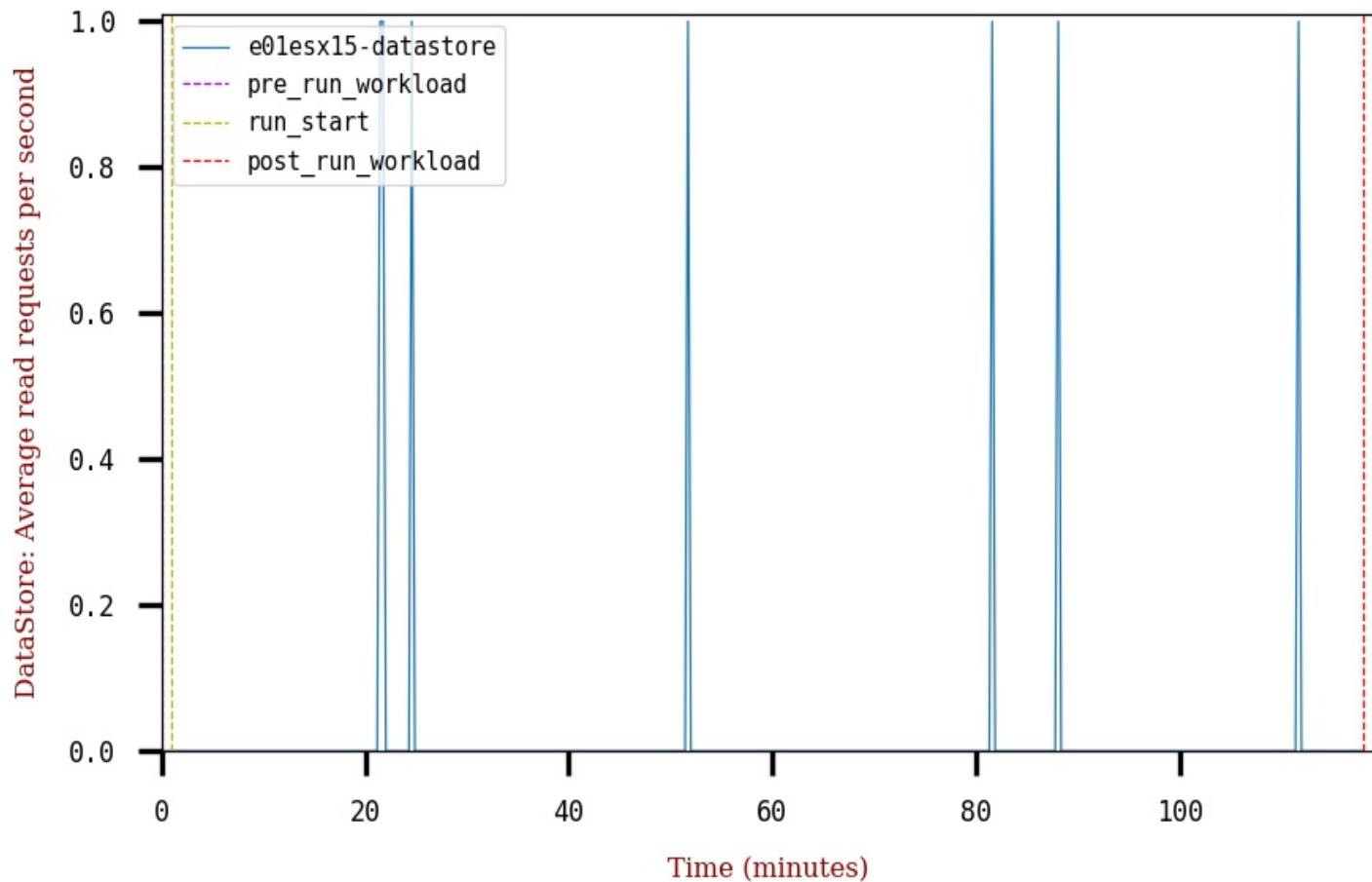


Table 5. Resource Usage of e01esx01.dc01.ssc.lan

Measurement	Average	Min	Max
CPU usage (percent)	5.51	4.55	11.75
CPU Core Utilization (percent)	5.75	4.33	11.53
CPU Utilization(percent)	2.98	2.25	6.04
Memory usage (percent)	40.25	40.19	40.3
Active Memory (GB)	71.36	68.45	77.18
Consumed Memory (GB)	432.11	431.4	432.59
Memory Balloon (GB)	0.0	0.0	0.0

Figure 30. e01esx01.dc01.ssc.lan : CPU

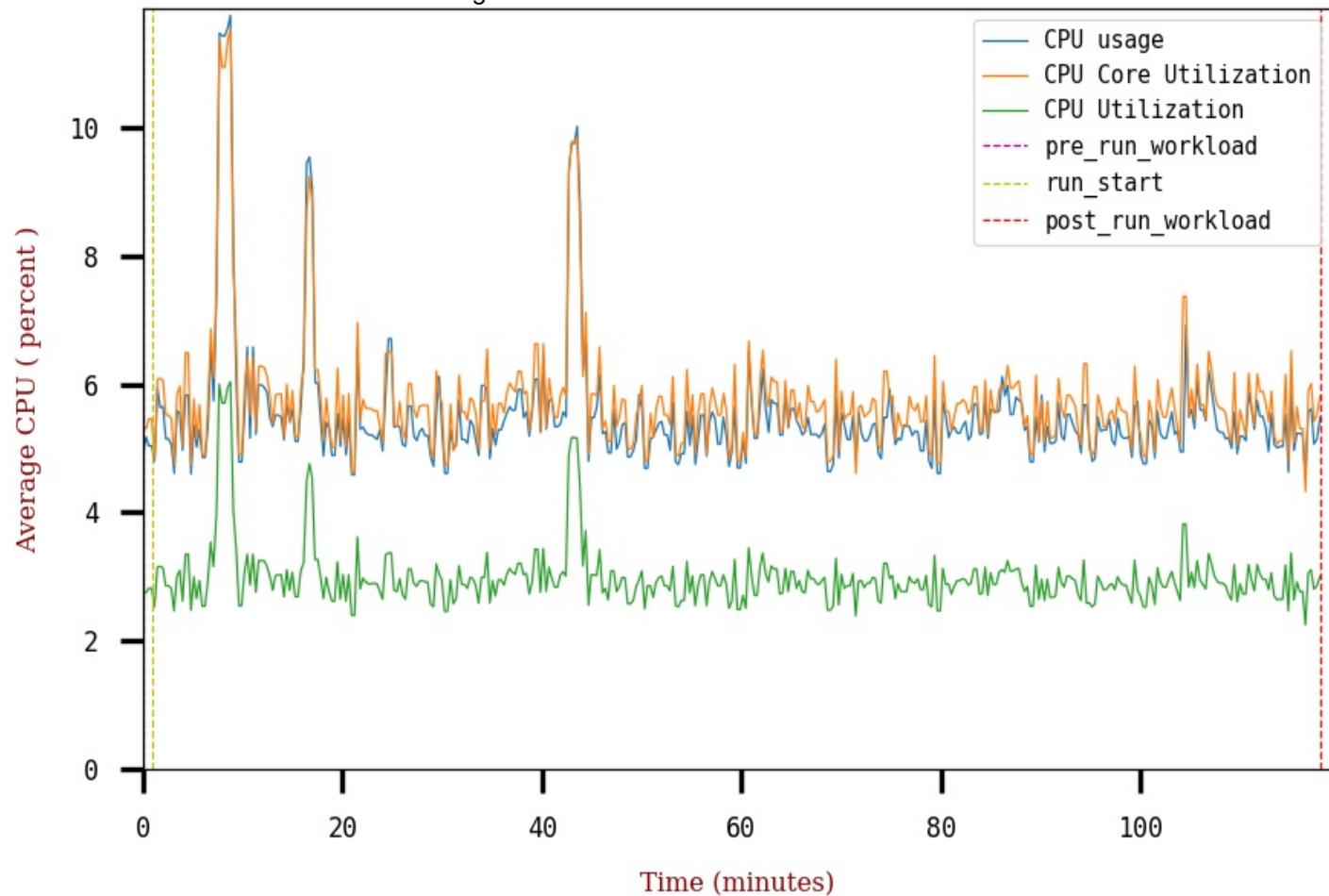


Figure 31. e01esx01.dc01.ssc.lan : Memory Usage

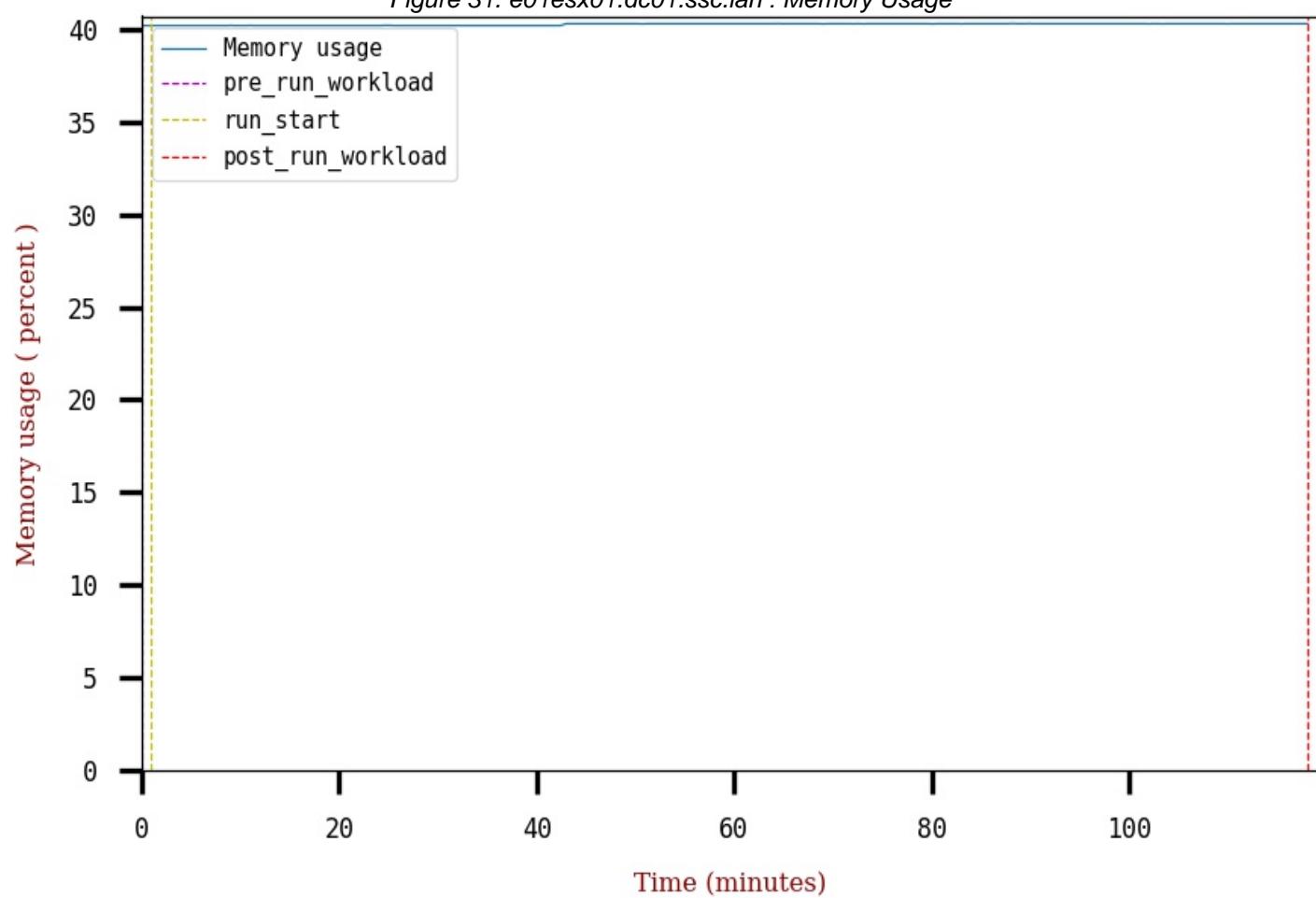


Figure 32. e01esx01.dc01.ssc.lan : Memory

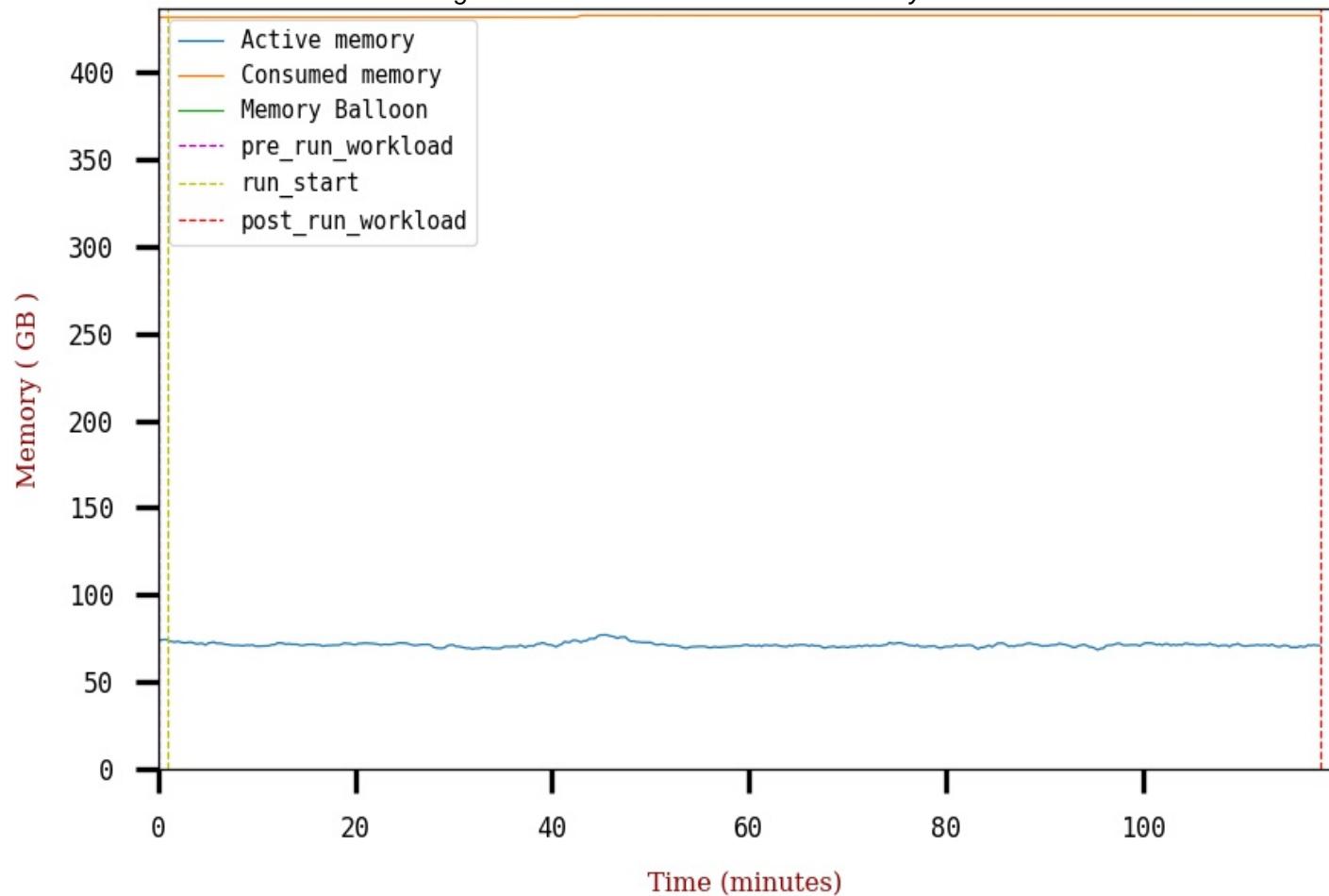


Figure 33. e01esx01.dc01.ssc.lan : Network Usage

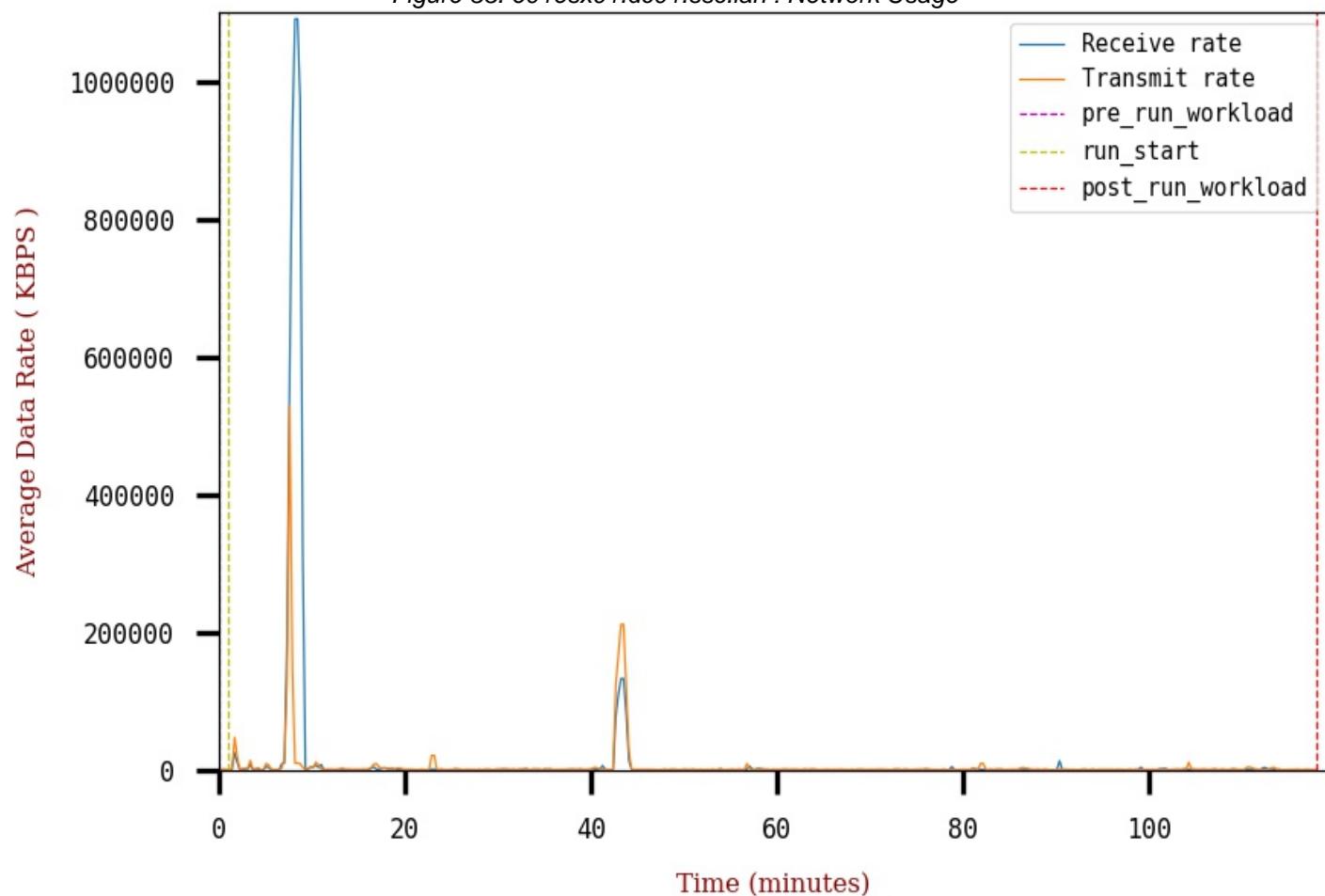


Figure 34. e01esx01.dc01.ssc.lan : Write Latency

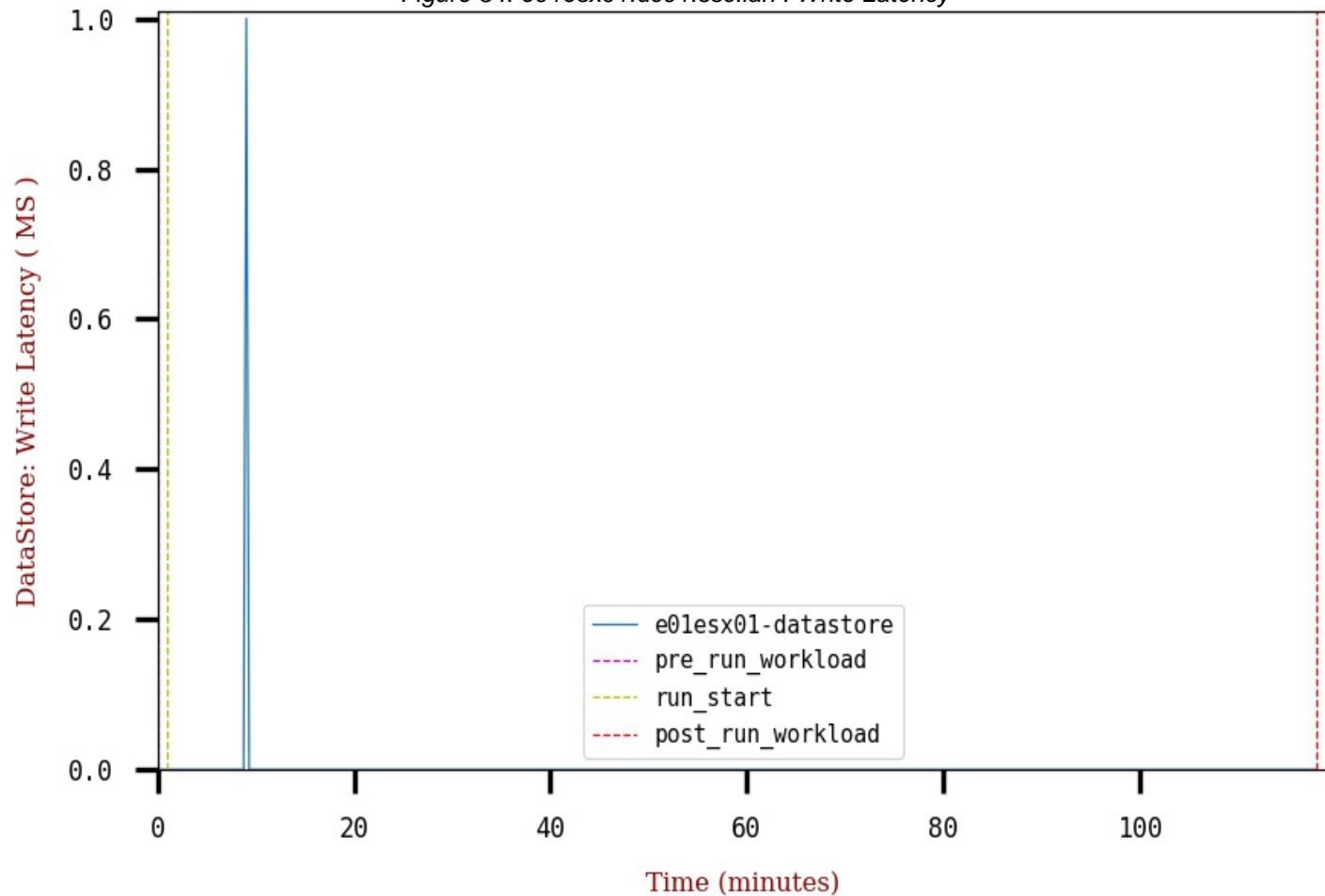


Figure 35. e01esx01.dc01.ssc.lan : Average write requests per second

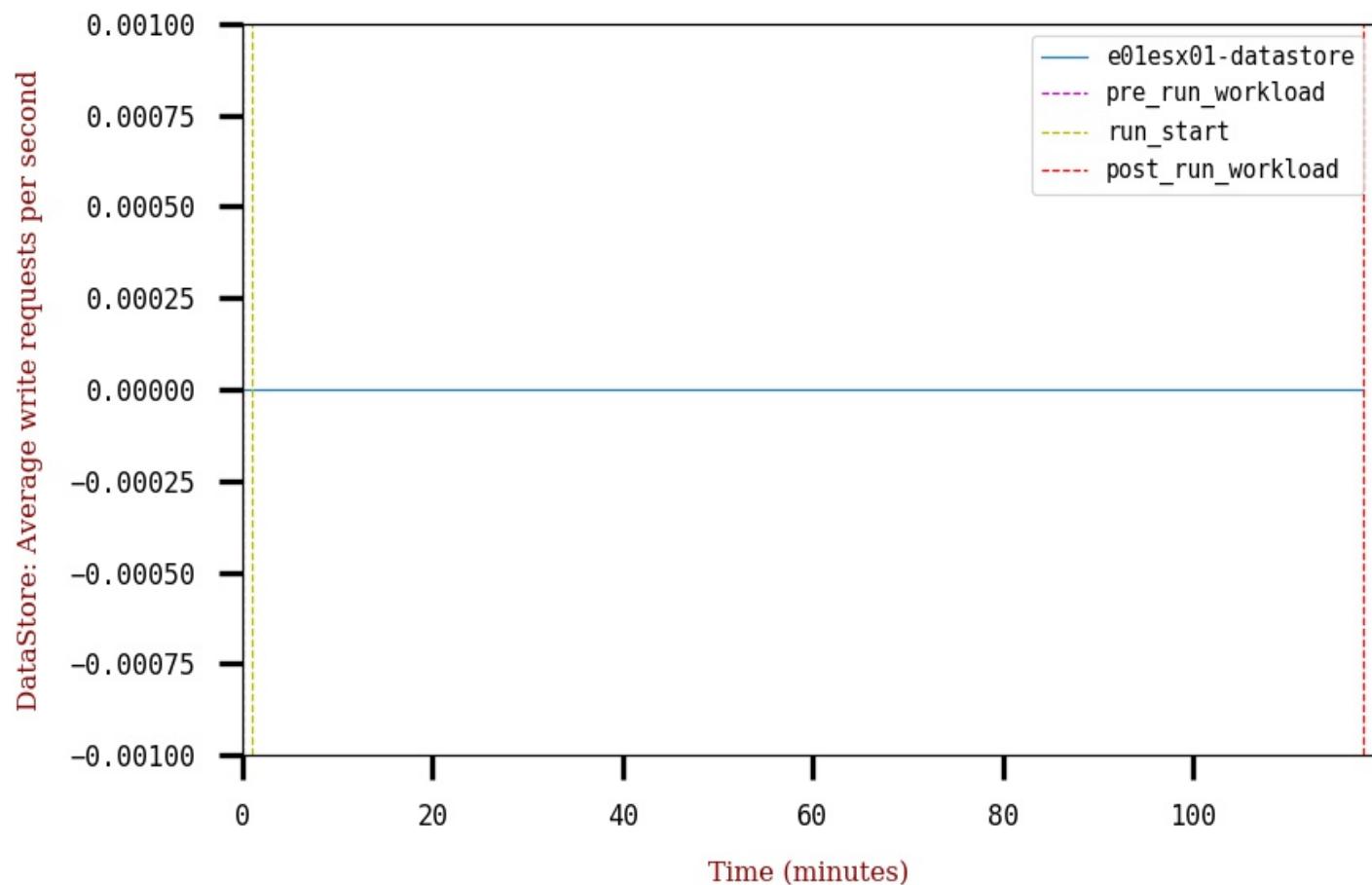


Figure 36. e01esx01.dc01.ssc.lan : Read Latency

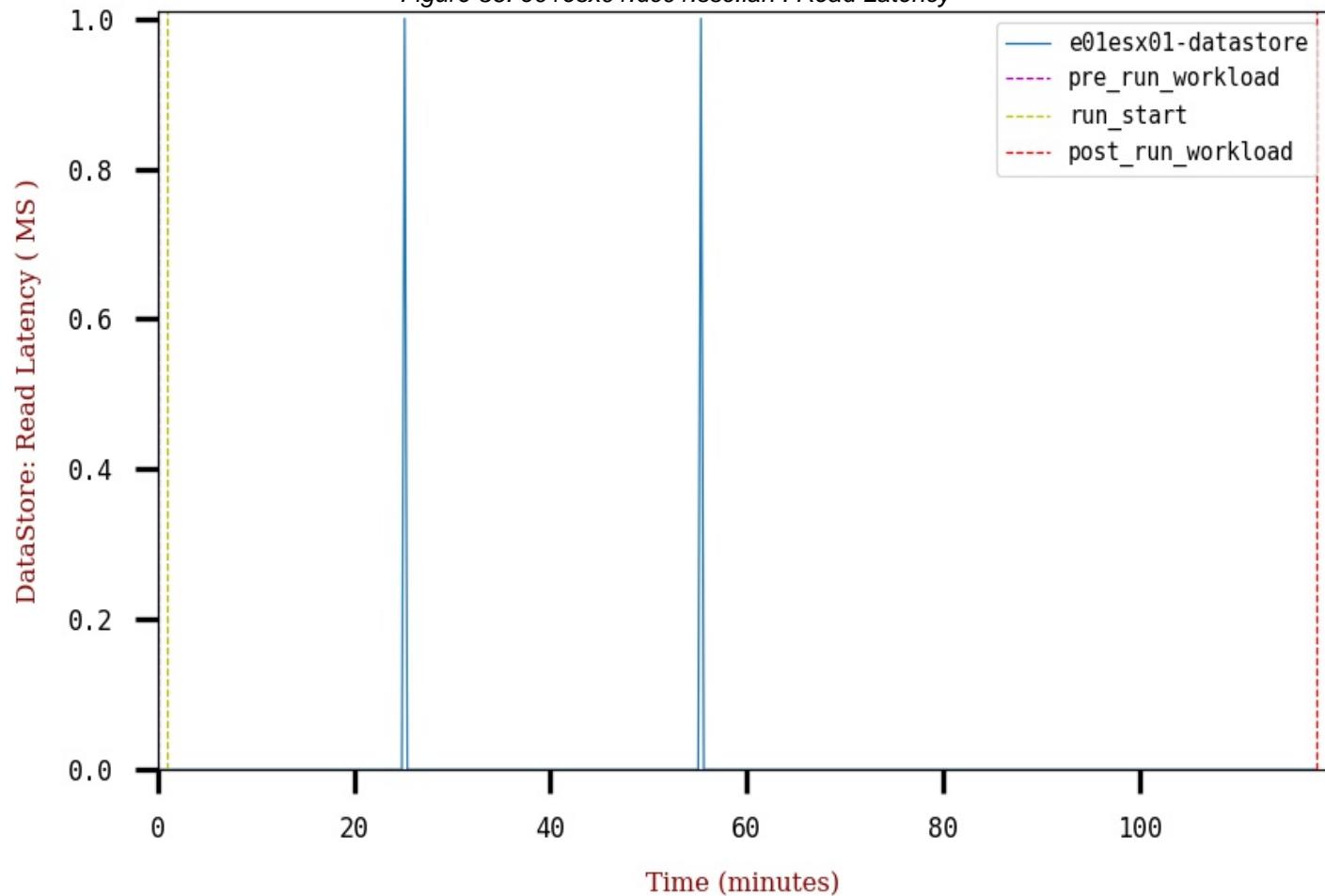


Figure 37. e01esx01.dc01.ssc.lan : Average read requests per second

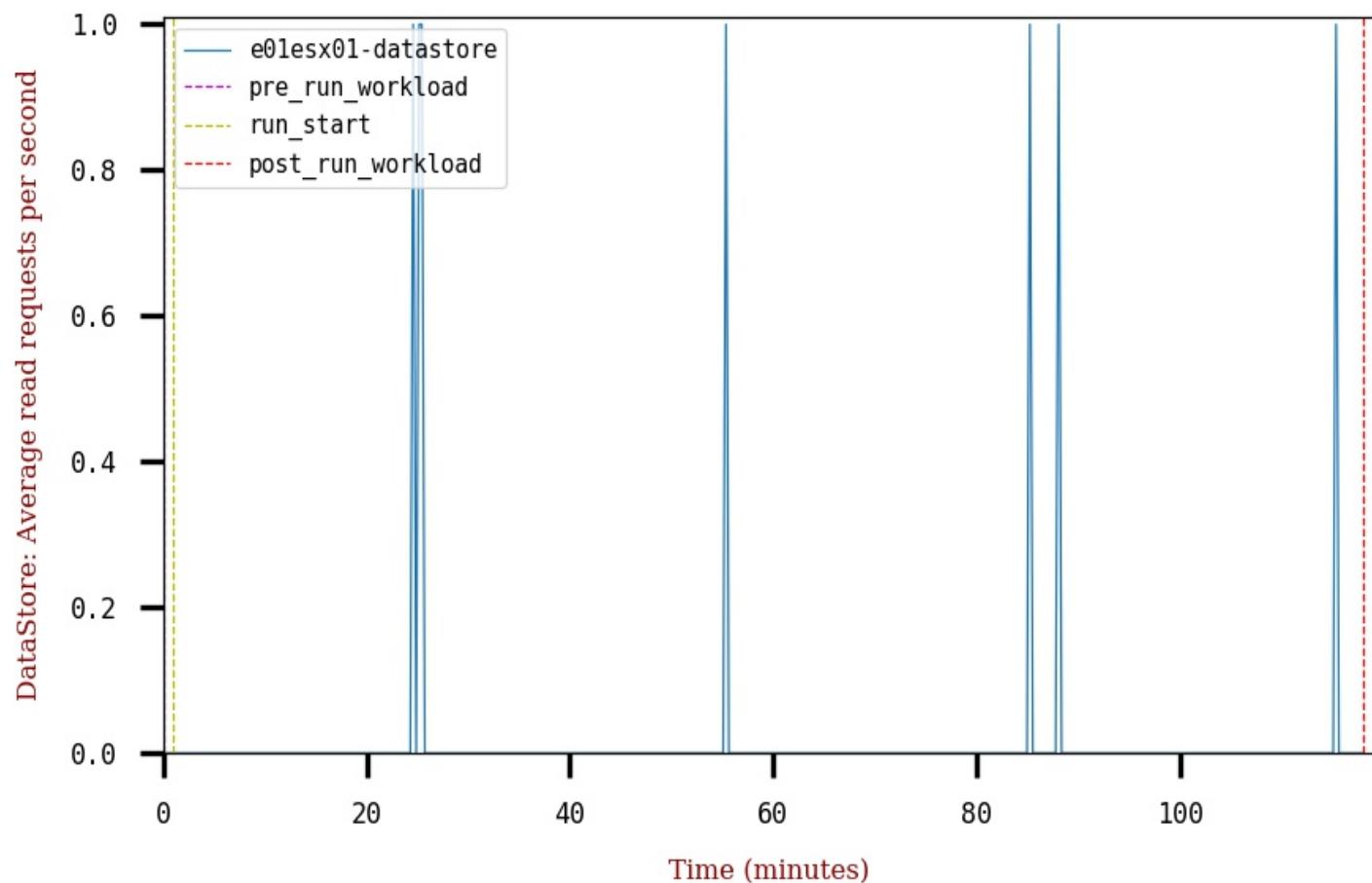


Table 6. Resource Usage of e01esx05.dc01.ssc.lan

Measurement	Average	Min	Max
CPU usage (percent)	5.84	4.69	12.09
CPU Core Utilization (percent)	6.03	4.56	12.09
CPU Utilization(percent)	3.13	2.37	6.45
Memory usage (percent)	39.92	39.85	39.96
Active Memory (GB)	72.29	69.98	76.57
Consumed Memory (GB)	428.53	427.74	429.0
Memory Balloon (GB)	0.0	0.0	0.0

Figure 38. e01esx05.dc01.ssc.lan : CPU

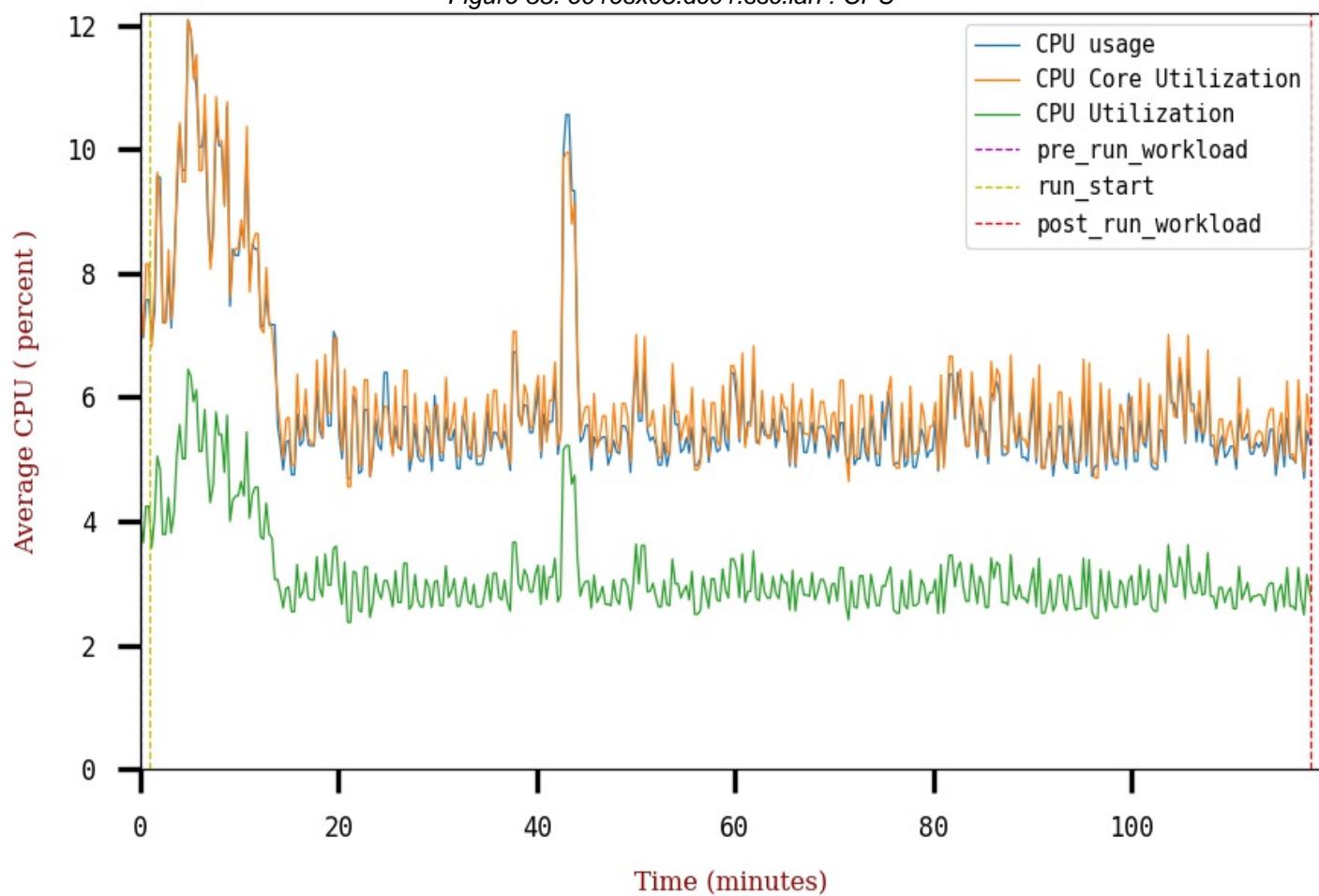


Figure 39. e01esx05.dc01.ssc.lan : Memory Usage

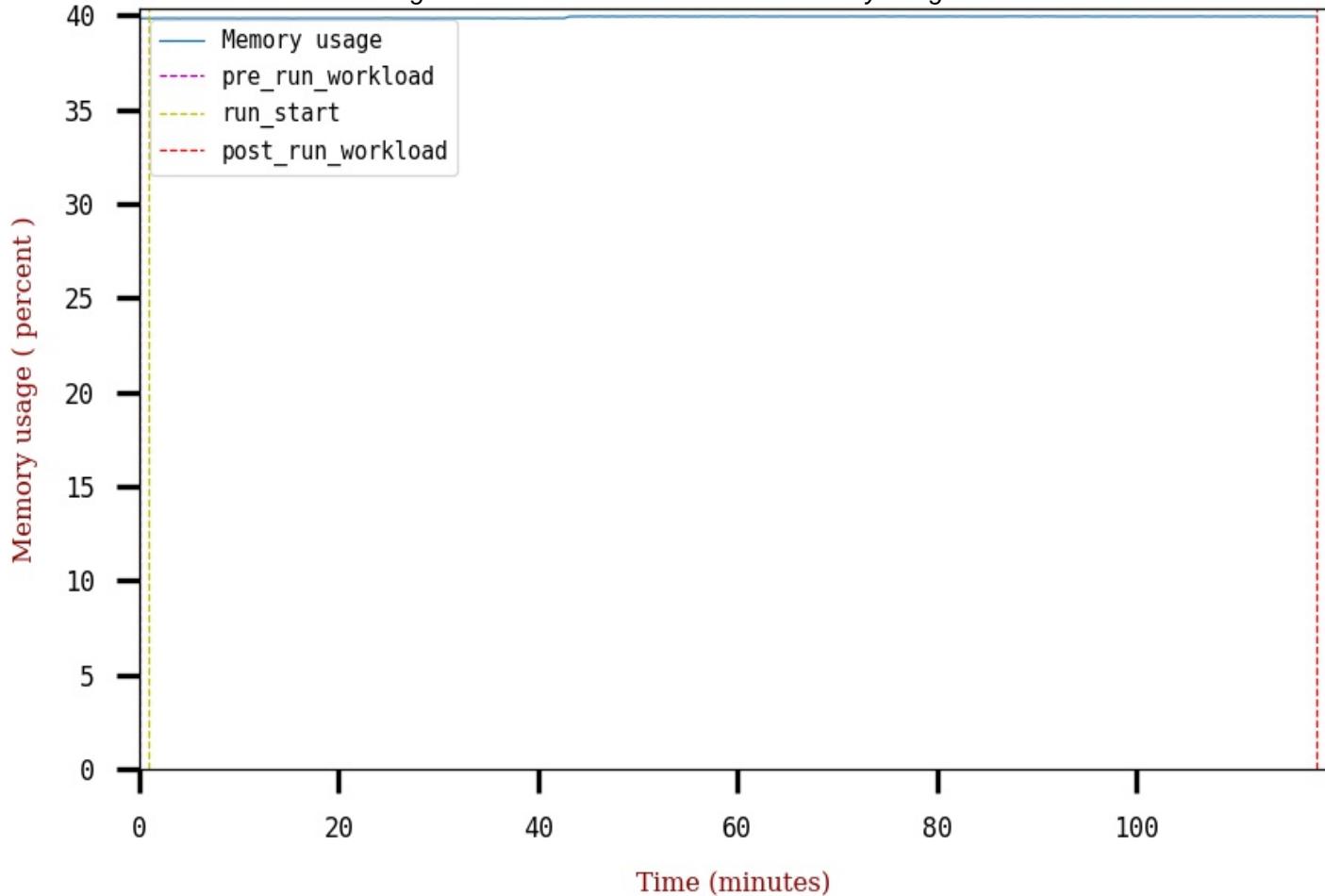


Figure 40. e01esx05.dc01.ssc.lan : Memory

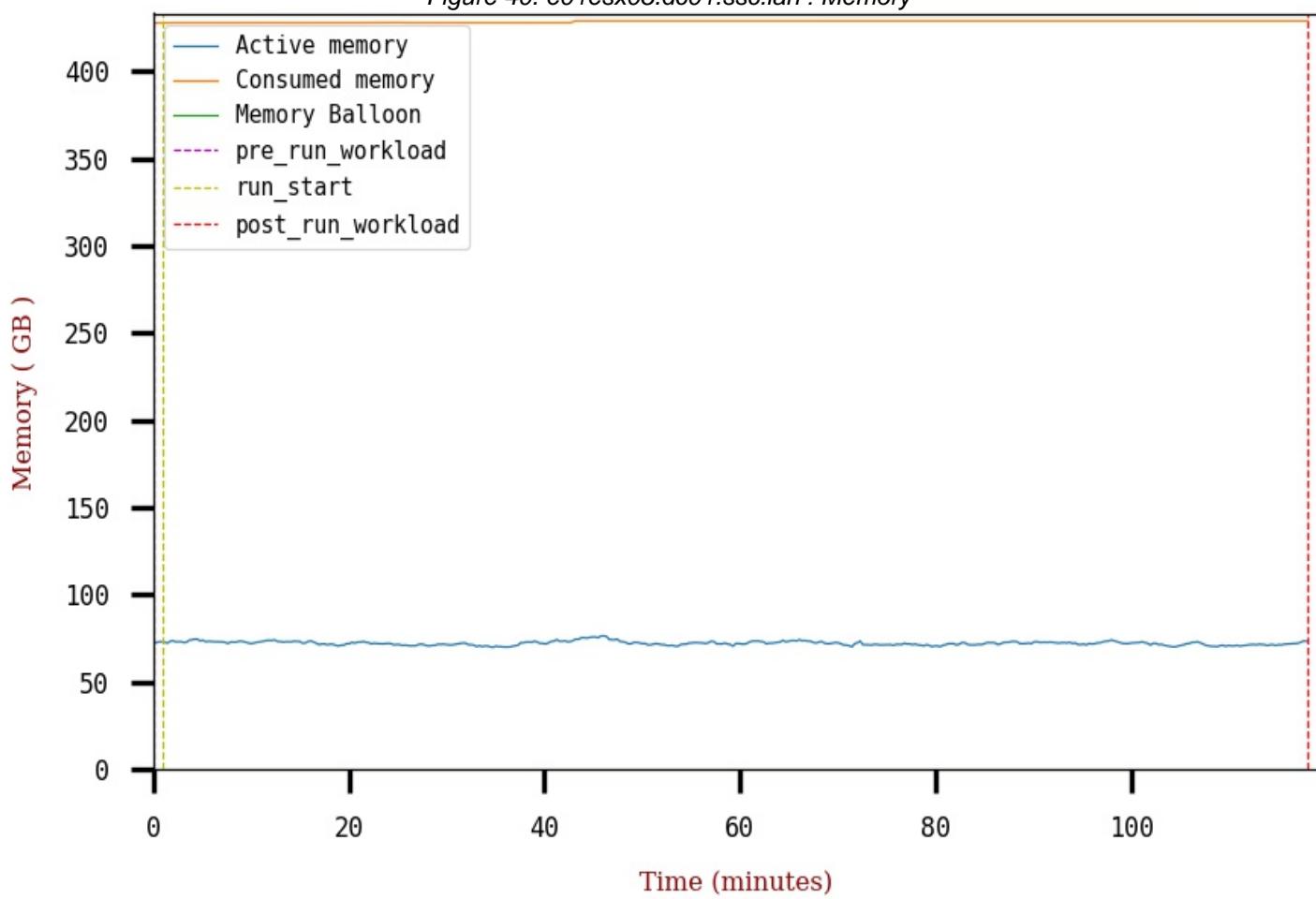


Figure 41. e01esx05.dc01.ssc.lan : Network Usage

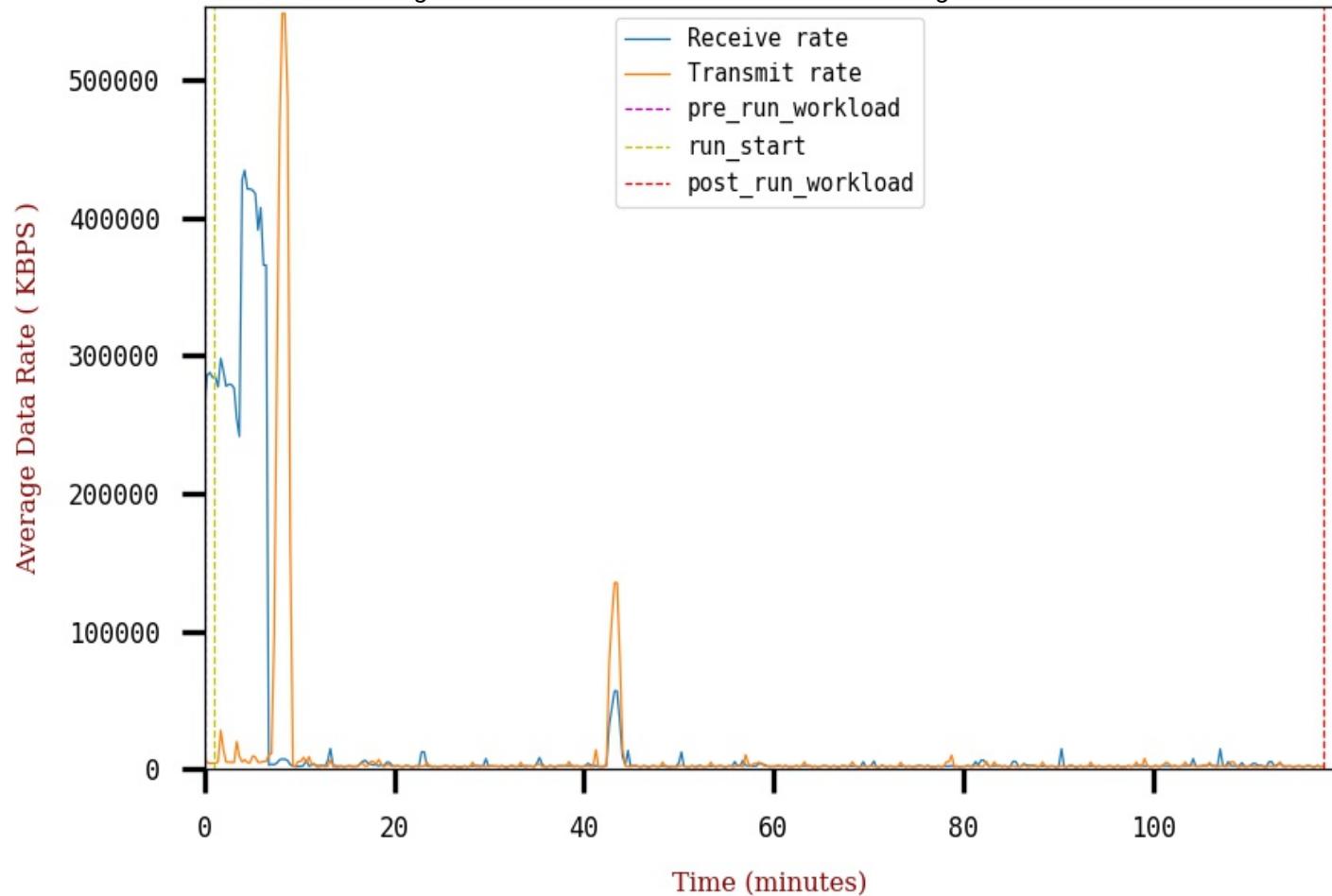


Figure 42. e01esx05.dc01.ssc.lan : Write Latency

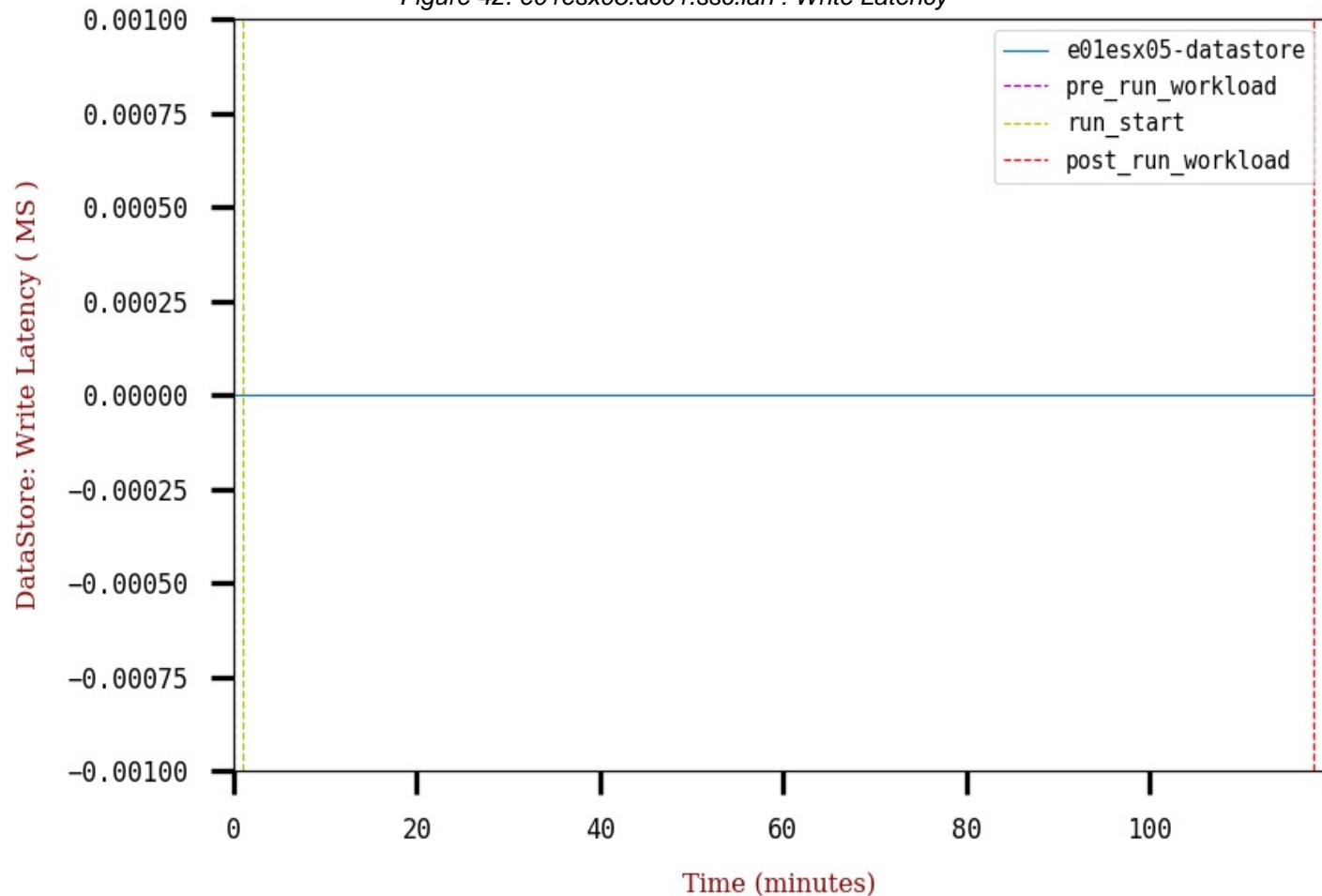


Figure 43. e01esx05.dc01.ssc.lan : Average write requests per second

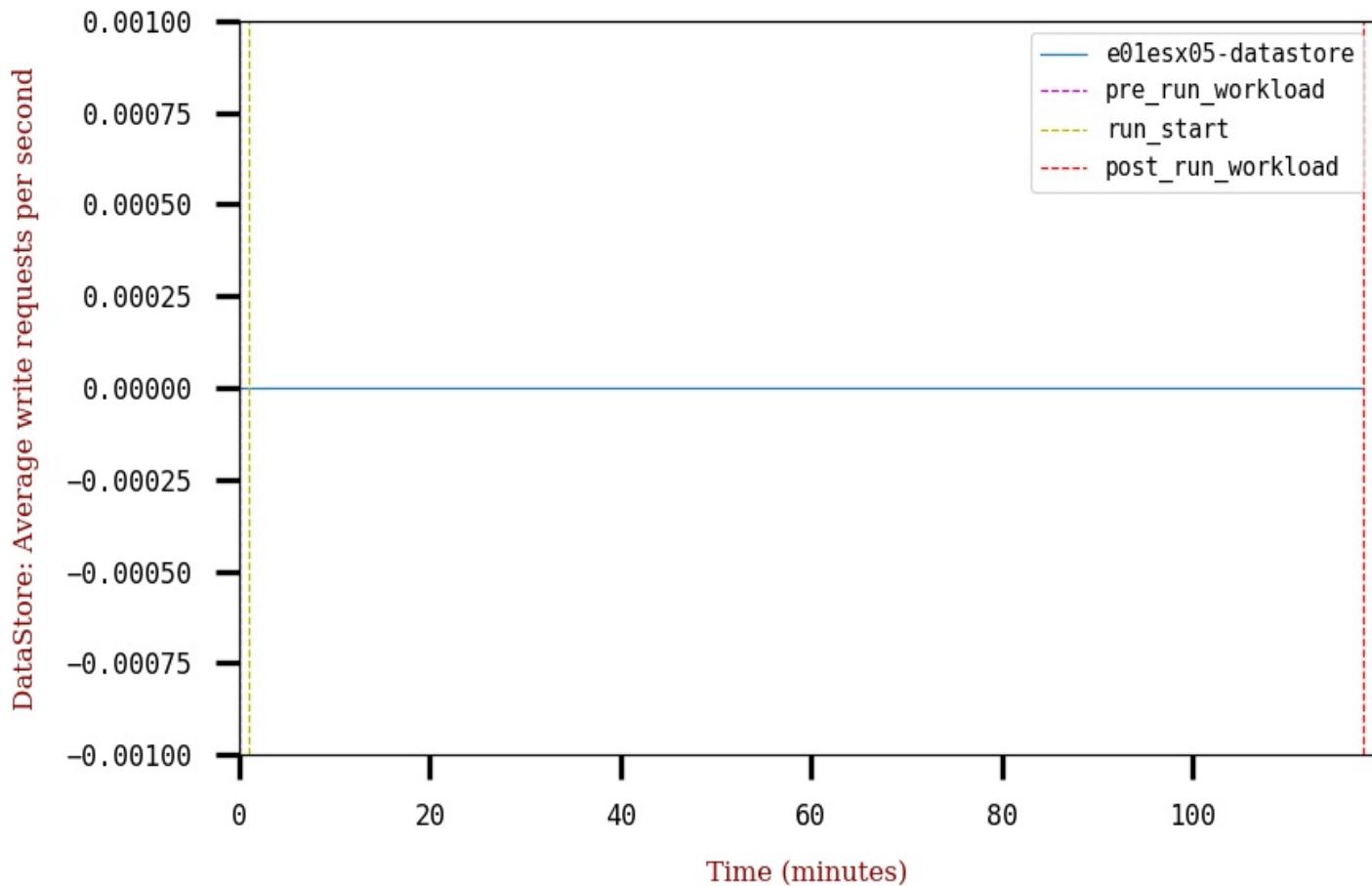


Figure 44. e01esx05.dc01.ssc.lan : Read Latency

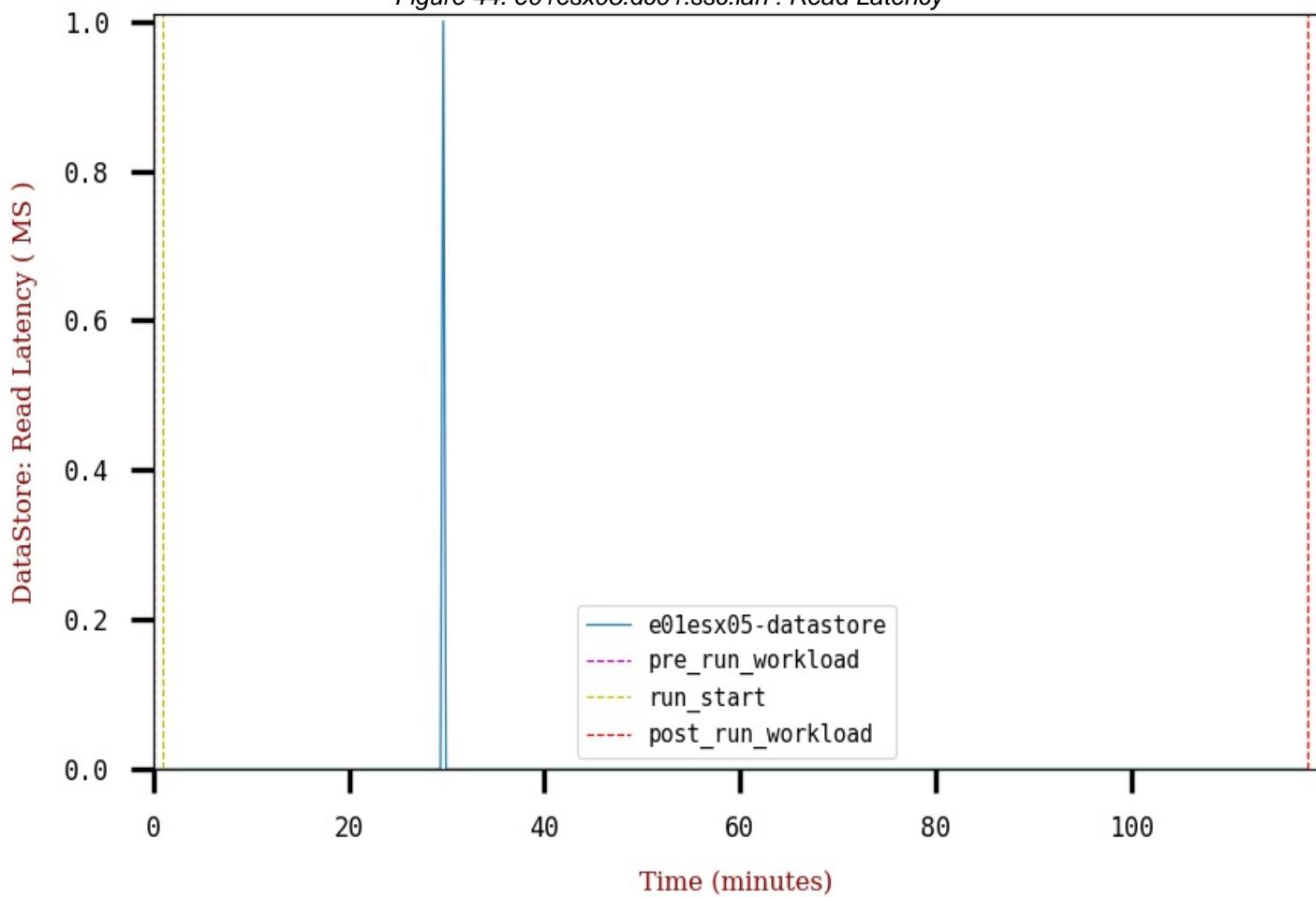


Figure 45. e01esx05.dc01.ssc.lan : Average read requests per second

