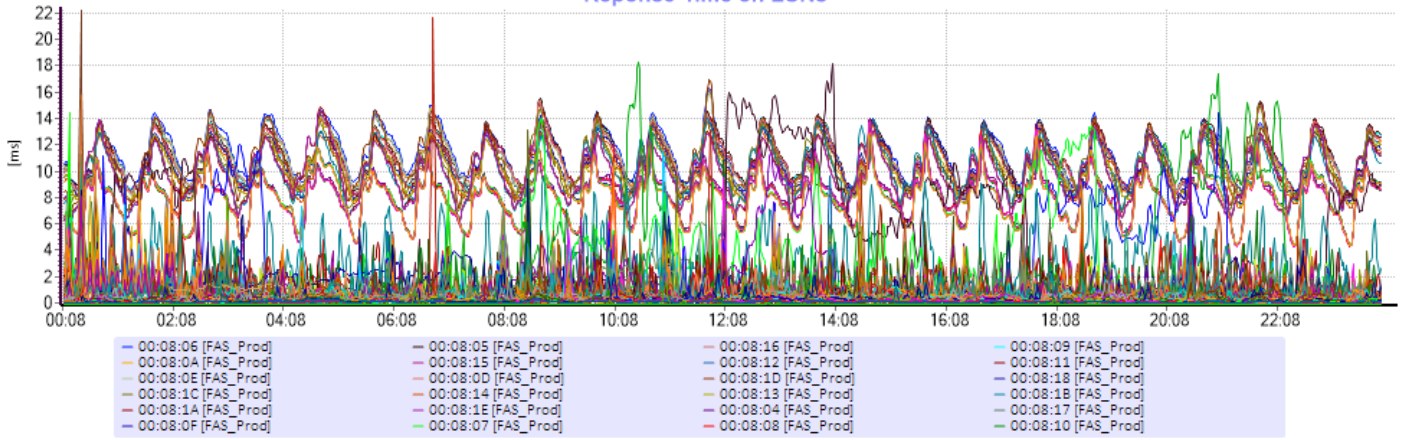


- Response
- Port I/O rate
- LUN IO rate
- Transfer rate
- Block size
- Workload info
- CPU utilisation
- HDD utilisation
- Write queue
- External storages

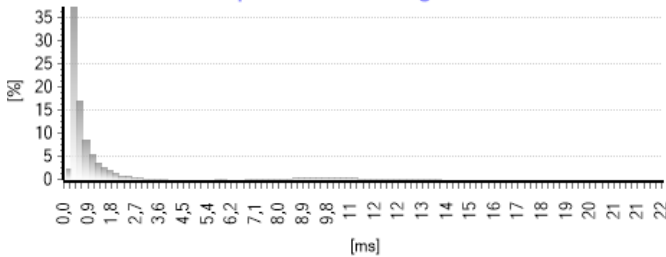
Response Time

Reponse Time on LUNs



LUN latency over the entire data collection. X-Axis represents Date-Time, Y-Axis represents latency [ms]. Average latency: 1.9 [ms], peak: 22.3 [ms].

Reponse Time Histogram

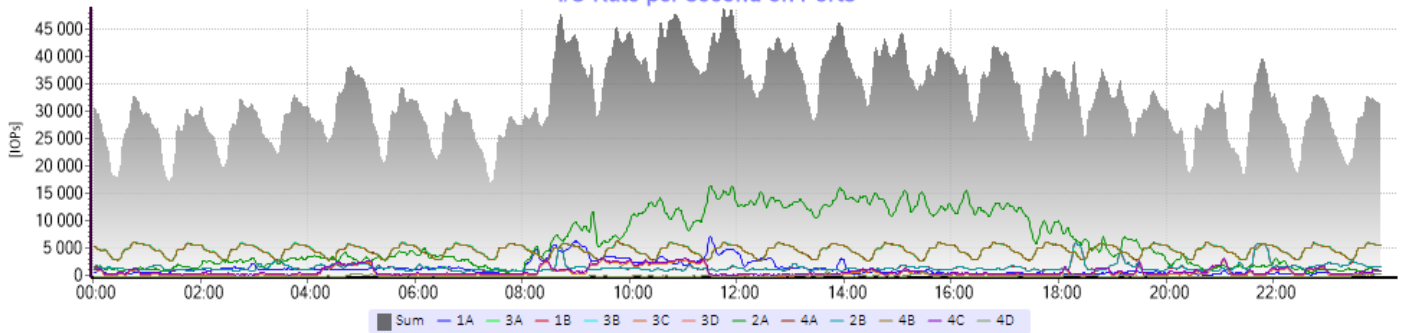


The latency histogram provide insight into the distribution of response times for IO requests. X-Axis represents latency, Y-Axis represents latency value rate [%].

Top LUNs with the highest Reponse Time	NonZero Average	Average	Minimum	Maximum	Metrics
00:08:06 [FAS_Prod]	11	11	8,3	16	[ms]
00:08:05 [FAS_Prod]	11	11	8,1	16	[ms]
00:08:16 [FAS_Prod]	11	11	8,1	16	[ms]
00:08:09 [FAS_Prod]	11	11	8,1	15	[ms]
00:08:0A [FAS_Prod]	11	11	7,9	16	[ms]
00:08:15 [FAS_Prod]	11	11	7,9	15	[ms]
00:08:12 [FAS_Prod]	11	11	7,8	16	[ms]
00:08:11 [FAS_Prod]	11	11	7,9	15	[ms]
00:08:0E [FAS_Prod]	11	11	7,9	16	[ms]
00:08:0D [FAS_Prod]	11	11	7,9	15	[ms]

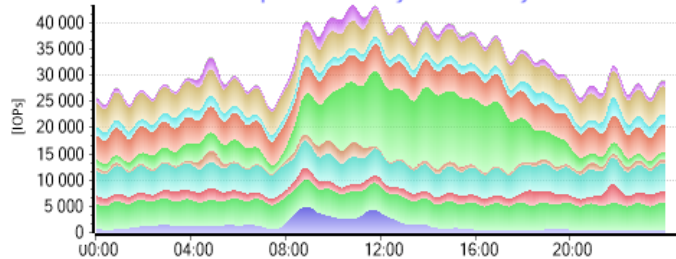
Input/Output operations per second

I/O Rate per second on Ports



Number of I/O operations per second over the entire data collection on the disk array ports. X-Axis represents Date-Time, Y-Axis represents IOPs on ports. Average: 32 692 [IOPs], peak: 52 094 [IOPs].

I/O Rate per second by hour of day

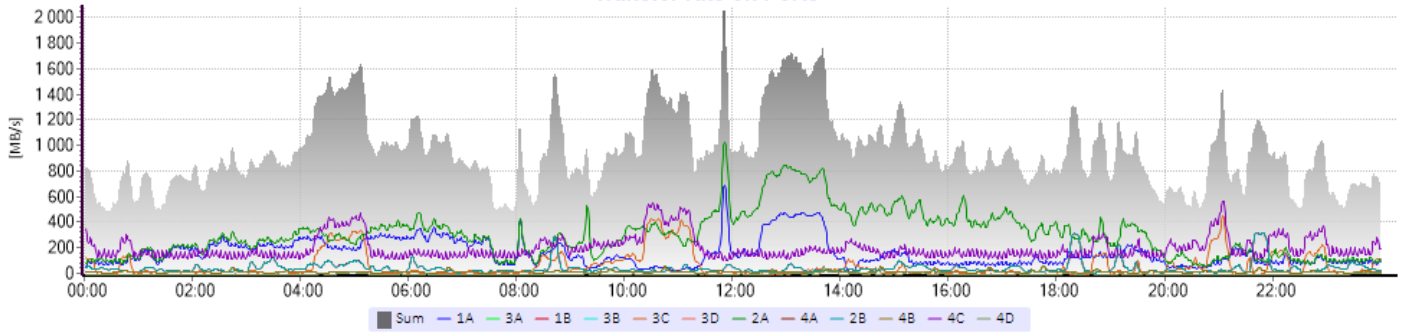


Total I/O Rate by hour of day. X-Axis represents Date-Time, Y-Axis represents IOPs on ports.

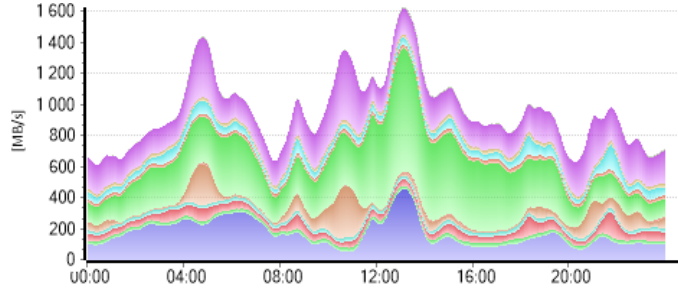
Top LUNs with the highest IOPs trafic	NonZero Average	Average	Minimum	Maximum	Metrics
00:02:02 [Sova_VDI_202]	4146	4146	159	12787	[IOPs]
00:01:12 [Hroch_VDP_112]	1109	1109	87	6499	[IOPs]
00:08:17 [FAS_Prod]	1008	1008	575	1726	[IOPs]
00:08:08 [FAS_Prod]	996	996	569	1719	[IOPs]
00:08:0B [FAS_Prod]	994	994	580	1722	[IOPs]
00:08:0C [FAS_Prod]	987	987	575	1712	[IOPs]
00:08:0F [FAS_Prod]	977	977	565	1680	[IOPs]
00:08:04 [FAS_Prod]	968	968	571	1660	[IOPs]
00:08:10 [FAS_Prod]	967	967	567	1660	[IOPs]
00:08:07 [FAS_Prod]	957	957	564	1632	[IOPs]

Transfer Rate

Transfer rate on Ports



Transfer rate over the entire data collection on the disk array ports. X-Axis represents Date-Time, Y-Axis represents transfer rate on ports [MB/s]. Average: 961 [MB/s], peak: 2 503 [MB/s].

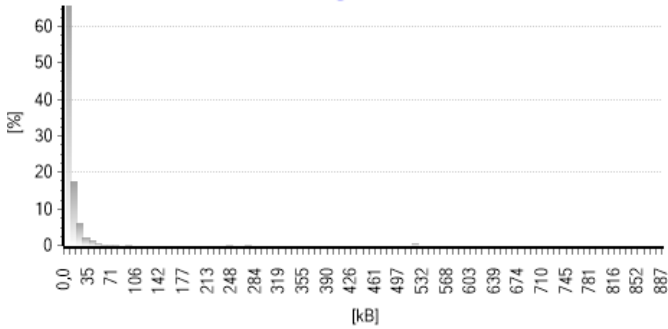


Total I/O Rate by hour of day. X-Axis represents Date-Time, Y-Axis represents IOPs on ports.

Top LUNs with the highest MBps traffic	NonZero Average	Average	Minimum	Maximum	Metrics
00:01:18 [G600_Hroch_Backupcz3_118]	64	51	0	660	[MB/s]
00:06:02 [Networker_602]	101	93	0	585	[MB/s]
00:04:51 [Pio_vCloud_VDP_451]	145	145	87	205	[MB/s]
00:02:02 [Sova_VDI_202]	119	119	1,7	399	[MB/s]
00:01:12 [Hroch_VDP_112]	118	118	32	946	[MB/s]
00:01:14 [Hroch_VDP_114]	106	106	27	1184	[MB/s]
00:01:1B [Hroch_Backupcz3_122]	34	16	0	379	[MB/s]
00:01:1D [G600_Hroch_Install_11D]	32	18	0	292	[MB/s]
00:01:1E [G600_Hroch_Install_11E]	22	11	0	230	[MB/s]
00:02:04 [Sova_VDI_204]	21	21	0,12	149	[MB/s]

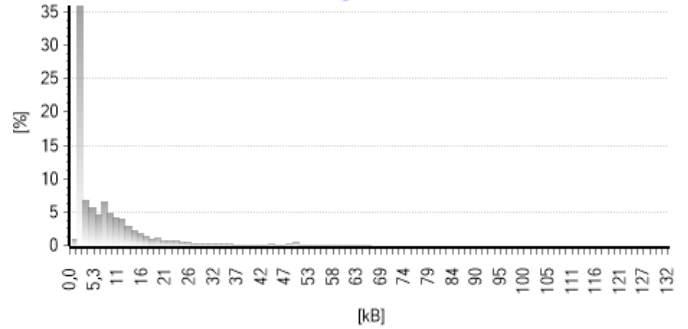
Block Size

Block size histogram of Read IOs



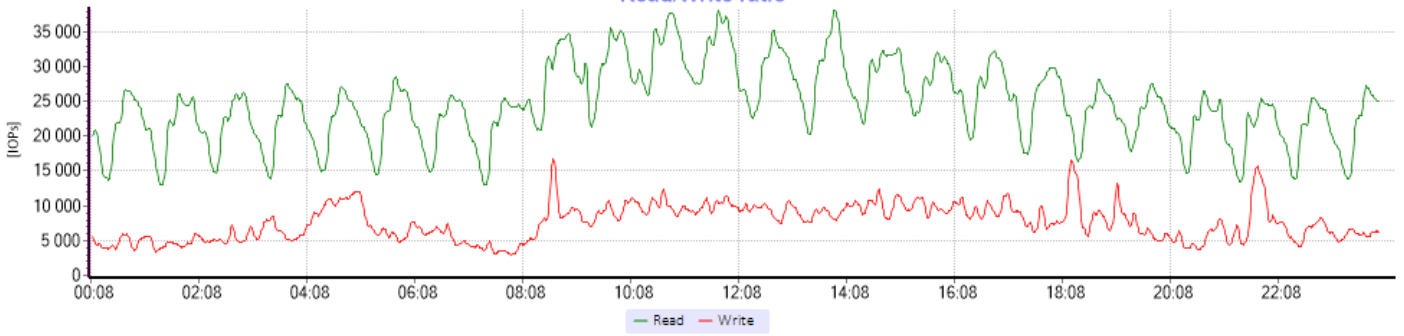
The Read Block Size histogram provide insight into the distribution of Read IO requests size. X-Axis represents latency, Y-Axis represents Read IO size rate [%].

Block size histogram of Write IOs



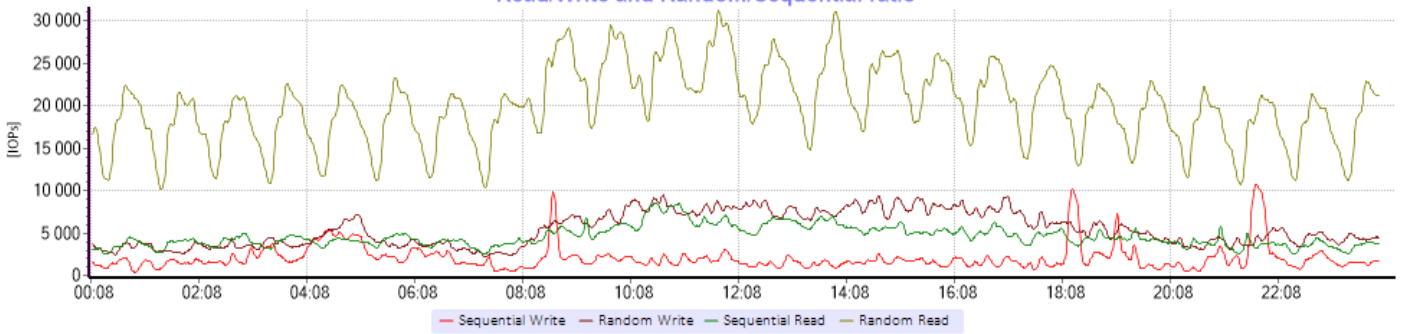
The Write Block Size histogram provide insight into the distribution of Write IO requests size. X-Axis represents latency, Y-Axis represents Write IO size rate [%].

Read/Write ratio

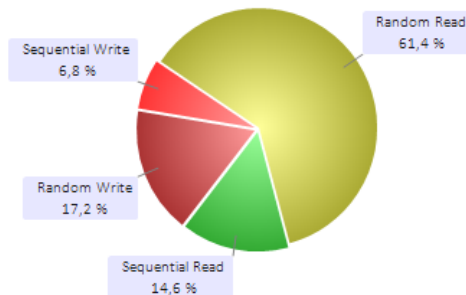
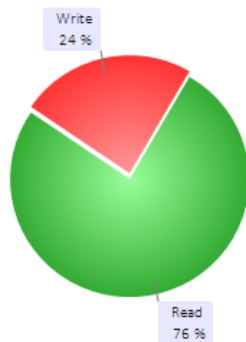


Read/Write ratio shows the ratio of read activity to write activity over the entire data collection. X-Axis represents Date-Time, Y-Axis represents Read/Write ratio [%].

Read/Write and Random/Sequential ratio

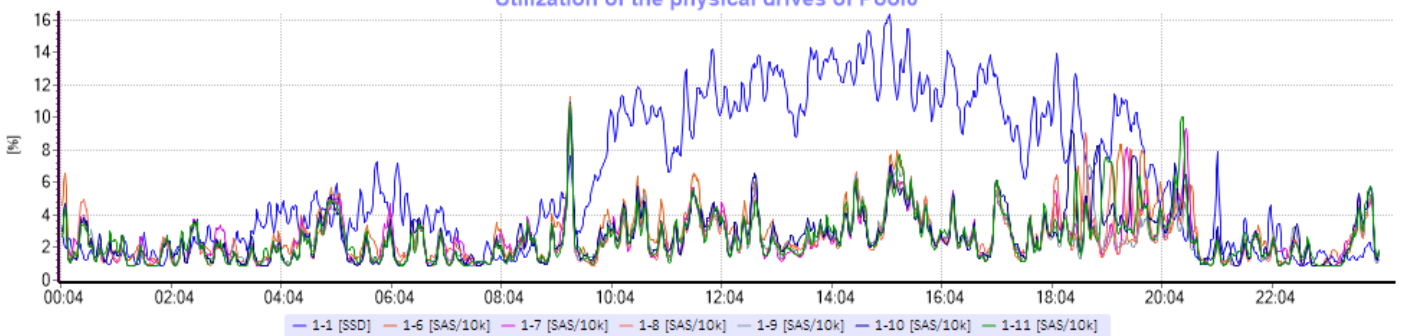


Read/Write ratio shows the ratio of read activity to write activity over the entire data collection. X-Axis represents Date-Time, Y-Axis represents Read/Write ratio [%].



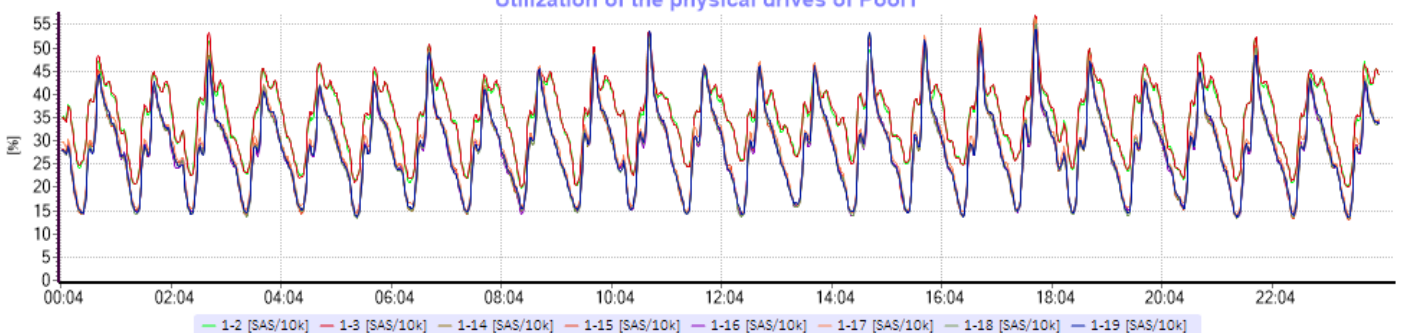
Drives Utilization

Utilization of the physical drives of Pool0



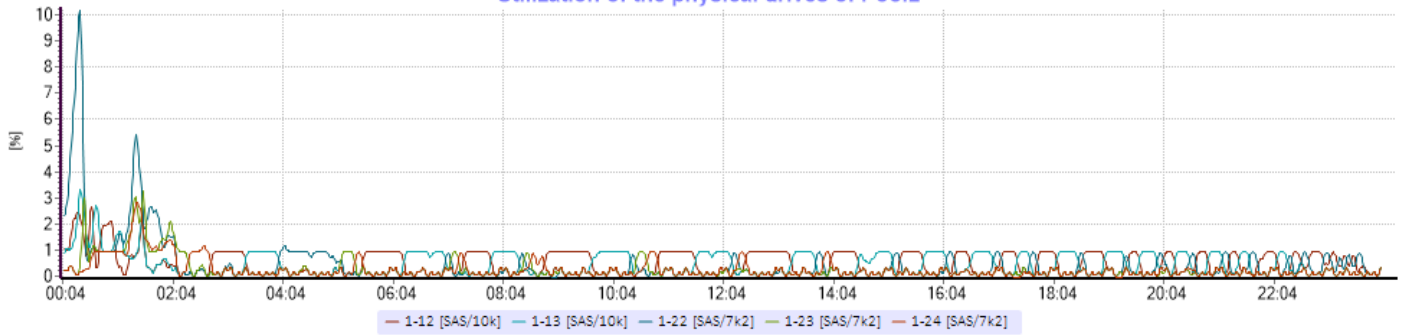
Utilization of the physical disks of Pool0 over the entire data collection. X-Axis represents Date-Time, Y-Axis represents drive utilization [%]. Average: 3.2 [%], peak: 16.4 [%].

Utilization of the physical drives of Pool1



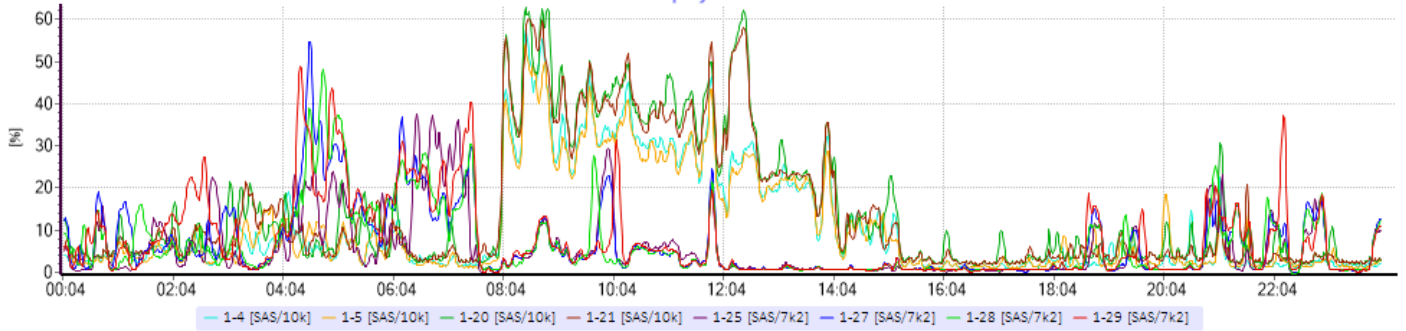
Utilization of the physical disks of Pool1 over the entire data collection. X-Axis represents Date-Time, Y-Axis represents drive utilization [%]. Average: 30.6 [%], peak: 57.3 [%].

Utilization of the physical drives of Pool2



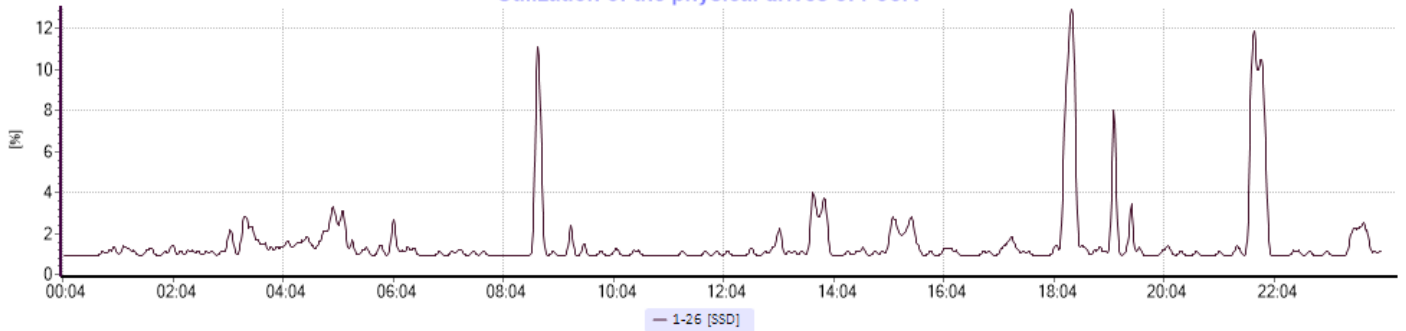
Utilization of the physical disks of Pool2 over the entire data collection. X-Axis represents Date-Time, Y-Axis represents drive utilization [%]. Average: 0.45 [%], peak: 10.2 [%].

Utilization of the physical drives of Pool3

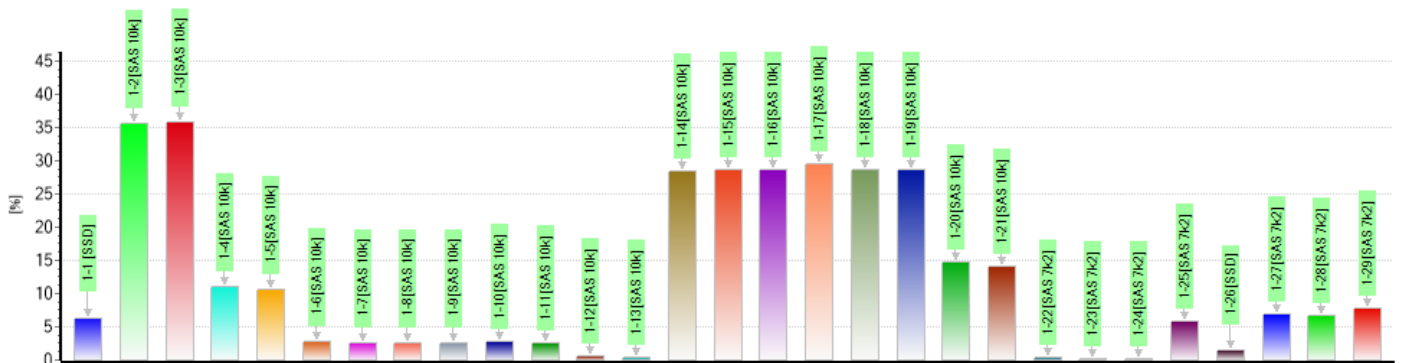


Utilization of the physical disks of Pool3 over the entire data collection. X-Axis represents Date-Time, Y-Axis represents drive utilization [%]. Average: 9.8 [%], peak: 63.2 [%].

Utilization of the physical drives of Pool4

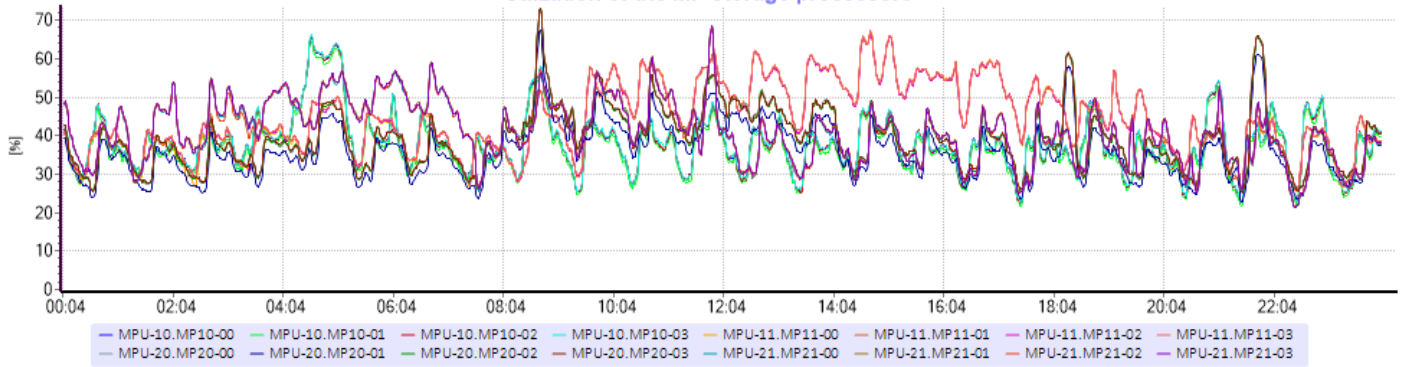


Utilization of the physical disks of Pool4 over the entire data collection. X-Axis represents Date-Time, Y-Axis represents drive utilization [%]. Average: 1.58 [%], peak: 13 [%].

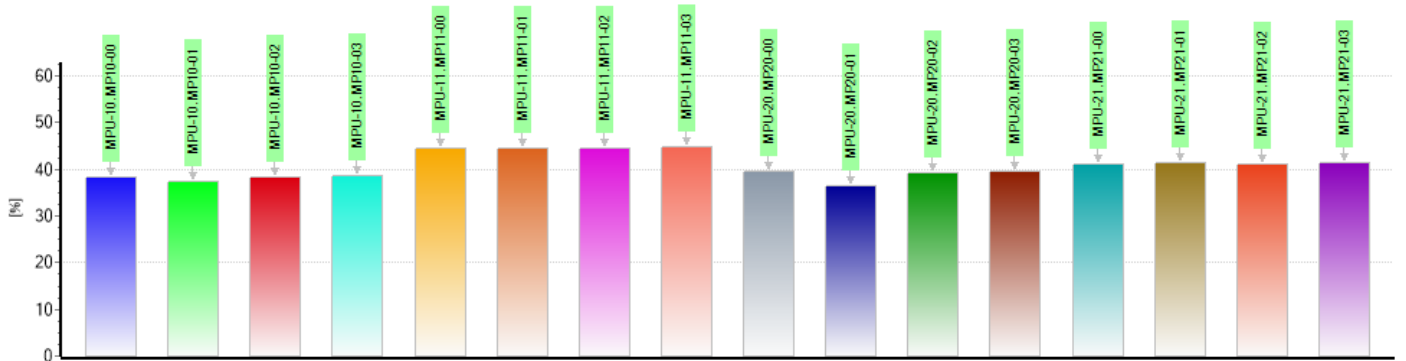


Utilization of physical disks over the Parity Groups. X-Axis represents Parity Groups, Y-Axis represents drive utilization [%]. Average: 12.9 [%], peak: 83 [%].

Utilization of the MP storage processors

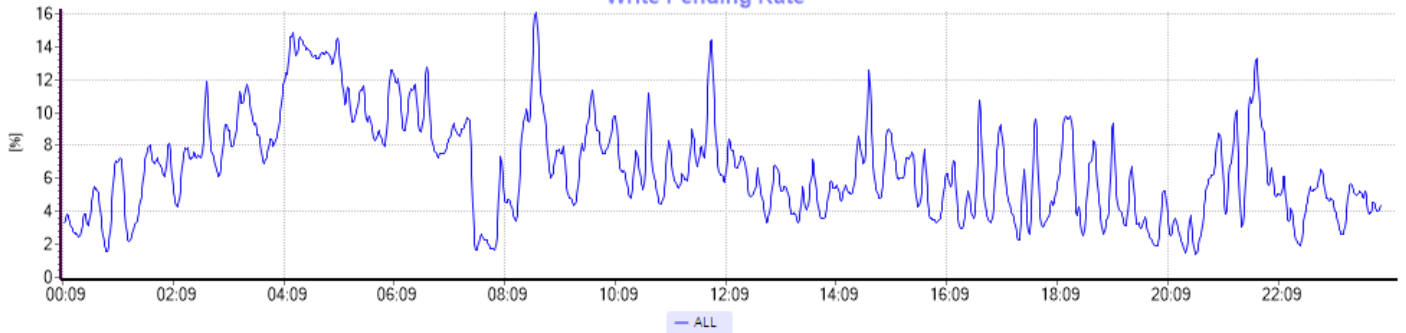


Utilization of the Storage processors over the entire data collection. X-Axis represents Date-Time, Y-Axis represents CPU utilization [%]. Average: 40.7 [%] peaks: 78.5 [%].



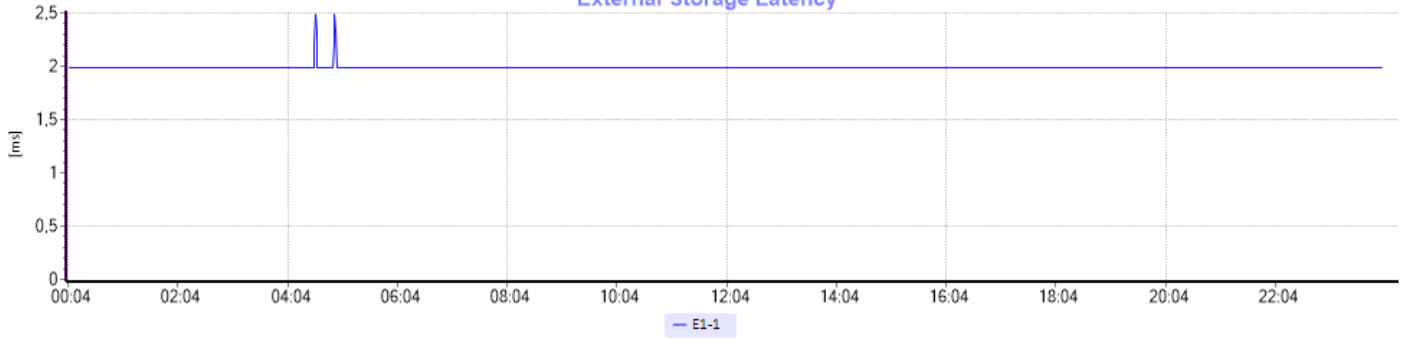
Average Utilization of the Storage processors. X-Axis represents Parity Groups, Y-Axis represents drive utilization [%].

Write Pending Rate



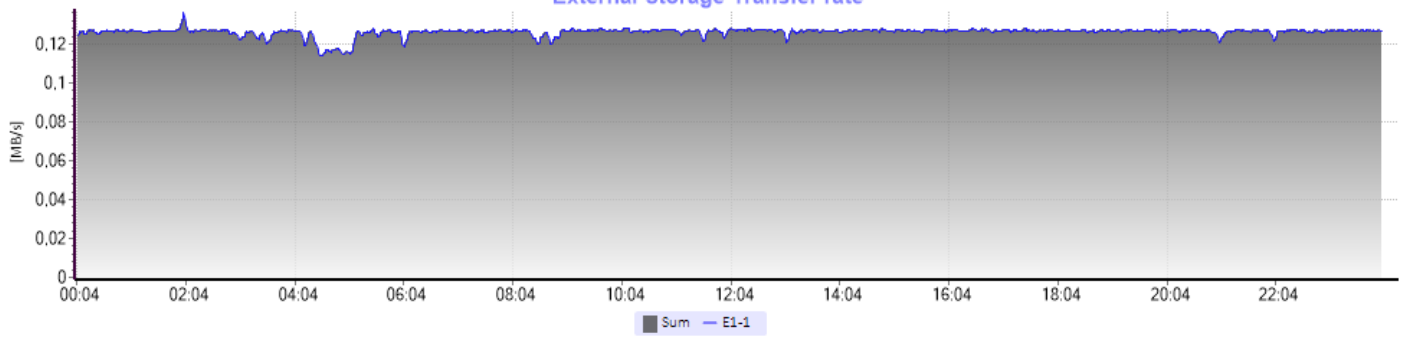
The write pending rate indicates the quantity of cache allocated by write operations. X-Axis represents Date-Time, Y-Axis represents Write pending rate [%]. Average: 6.7 [%], peaks: 21 [%]. This metrics is critical for the latency: <33% Normal value, >33% Hosts priority is decreased, >70% Host are paused until cache destage.

External Storage Latency



Latency over the entire data collection on the External Storages. X-Axis represents Date-Time, Y-Axis represents latency [ms]. Average latency: 2 [ms], peak: 2.5 [ms].

External Storage Transfer rate



Transfer rate over the entire data collection on the External Storages. X-Axis represents Date-Time, Y-Axis represents transfer rate on ports [MB/s]. Average: 0.13 [MB/s], peak: 0.14. [MB/s]