HCIBench Report

Test Case Name: fio-8vmdk-100ws-8k-50rdpct-100randompct-4threads-1692011355
Report Date: 2023-08-14 12:47:00 +0000
Generated by: HCIBench_2.8.2

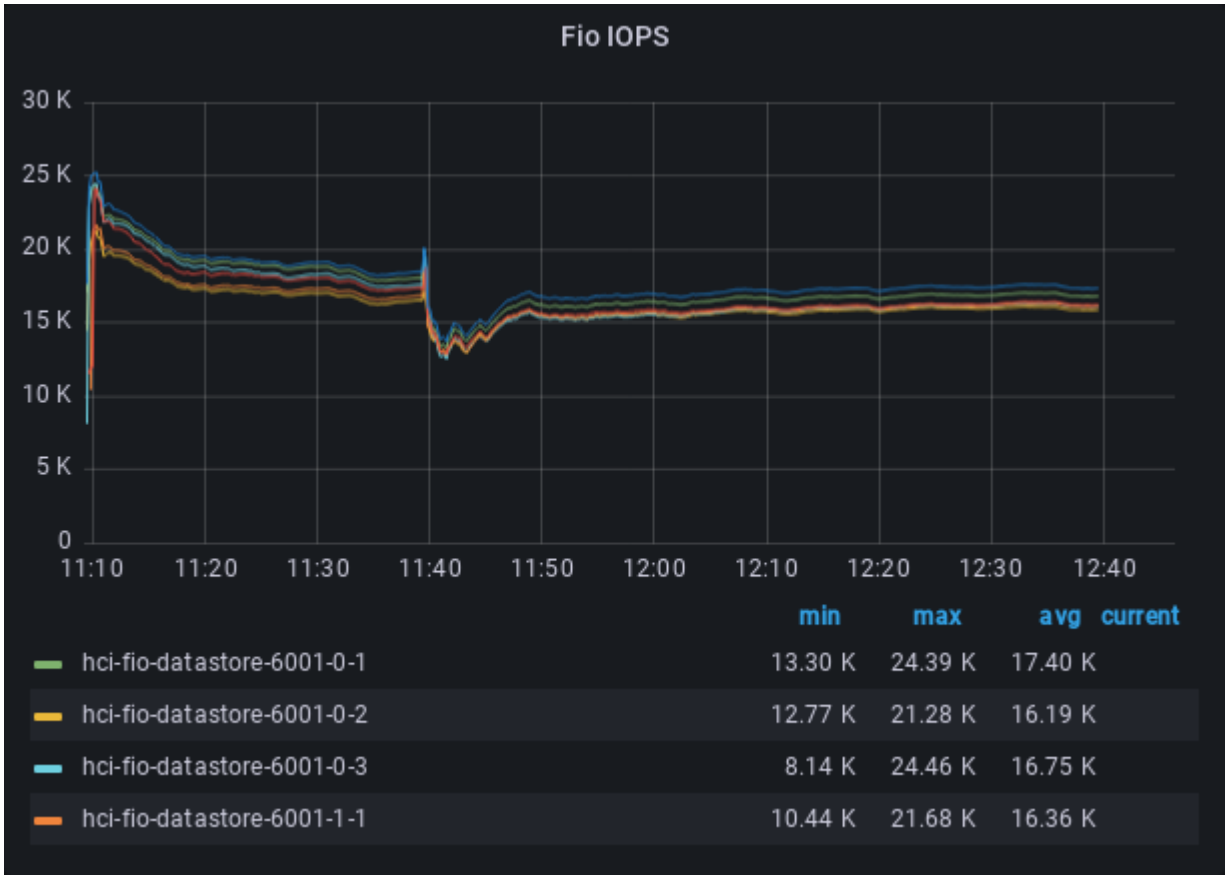
Performance Results

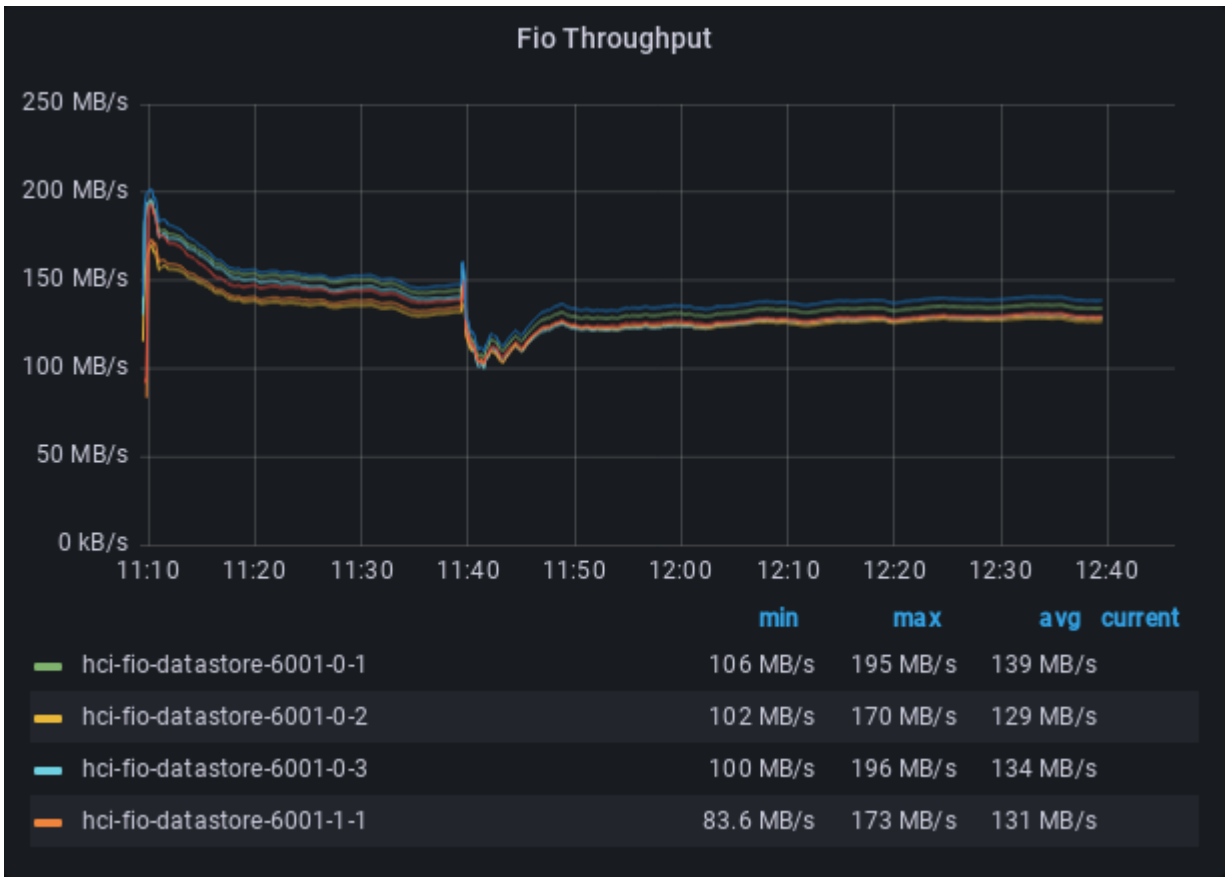
Datastore: vsanDatastore
==========
JOB_NAME: job0
Number of VMs: 6
I/O per Second: 98517.80 IO/S
Throughput: 769.00 MB/s
Read Latency: 1.55 ms
Write Latency: 2.34 ms
95th Percentile Read Latency: 3.00 ms
95th Percentile Write Latency: 5.00 ms
==========

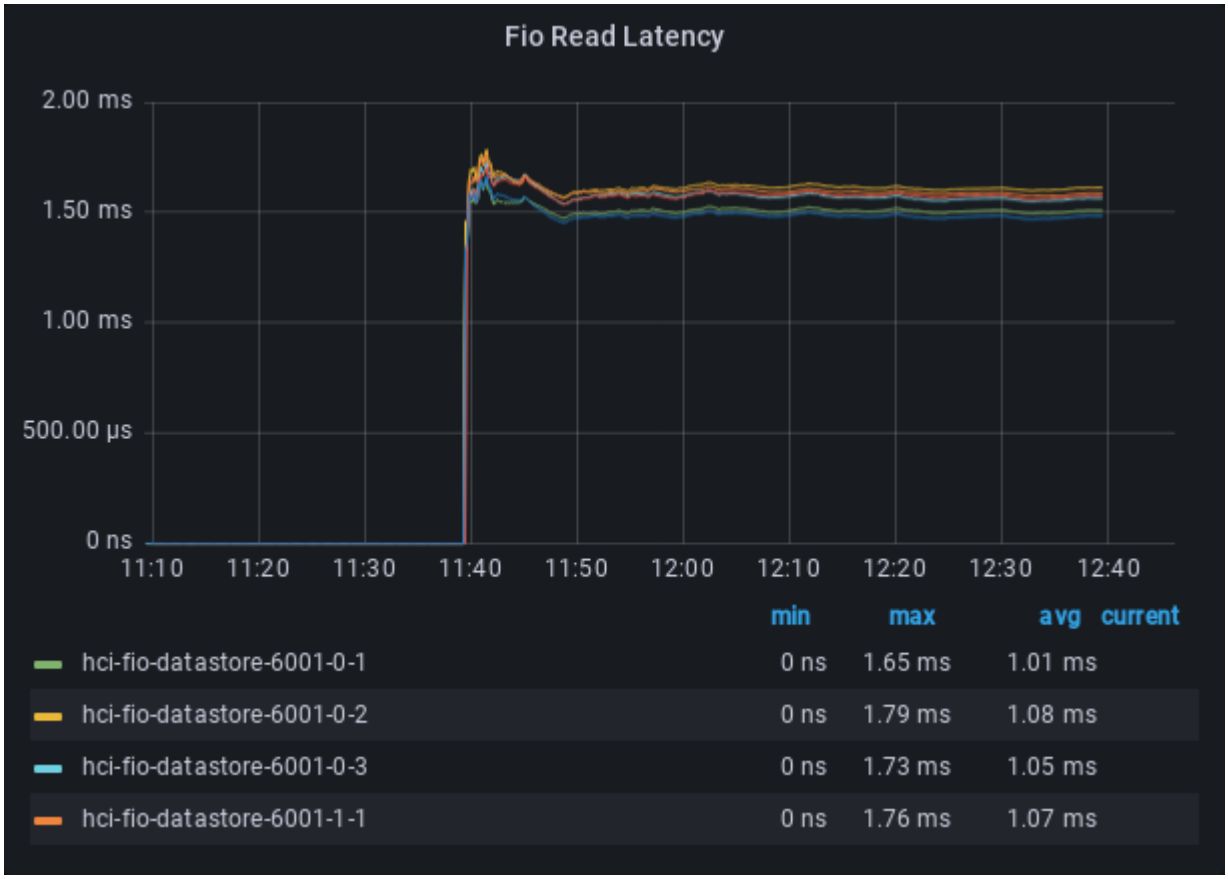
Resource Usage

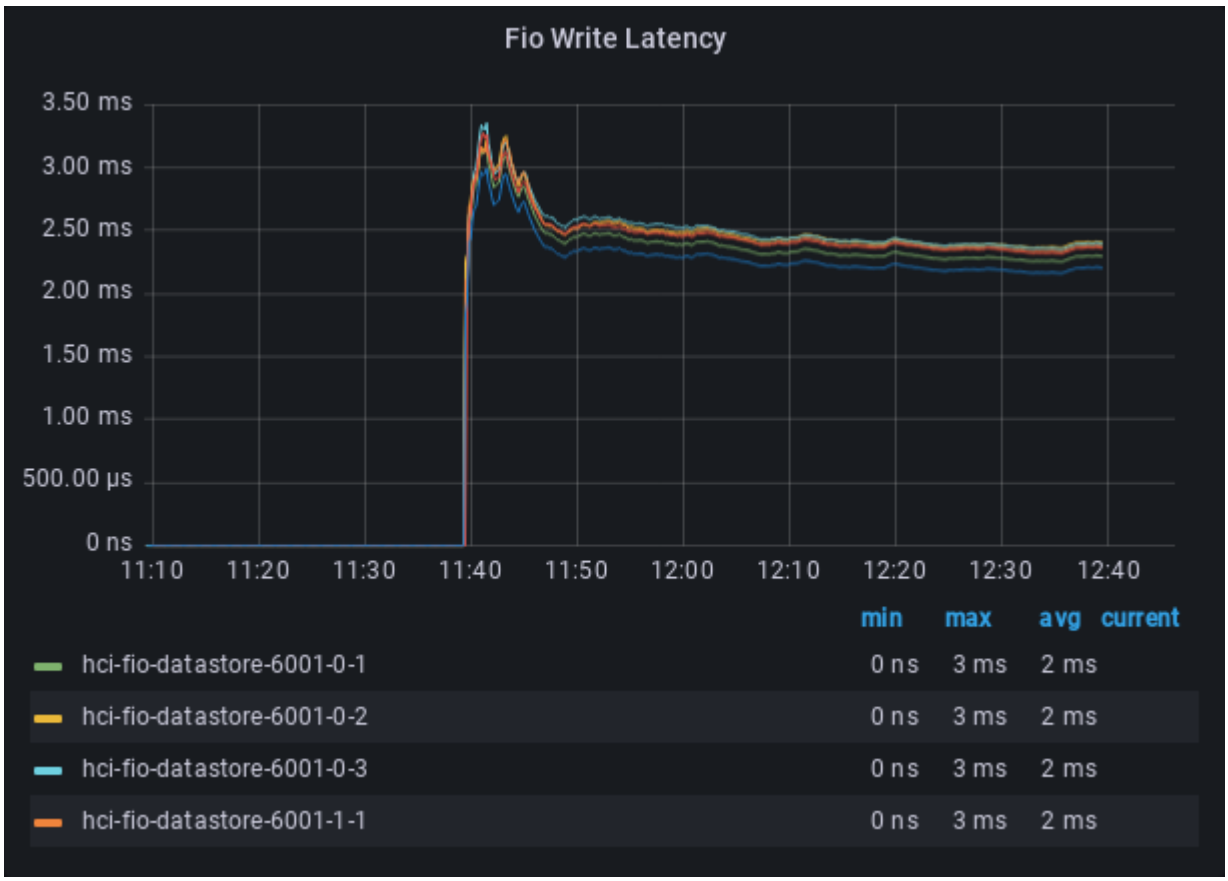
Cluster	cpu.usage	cpu.utilization	mem.usage
EE-Cluster	49.5%	52.7%	21.83%

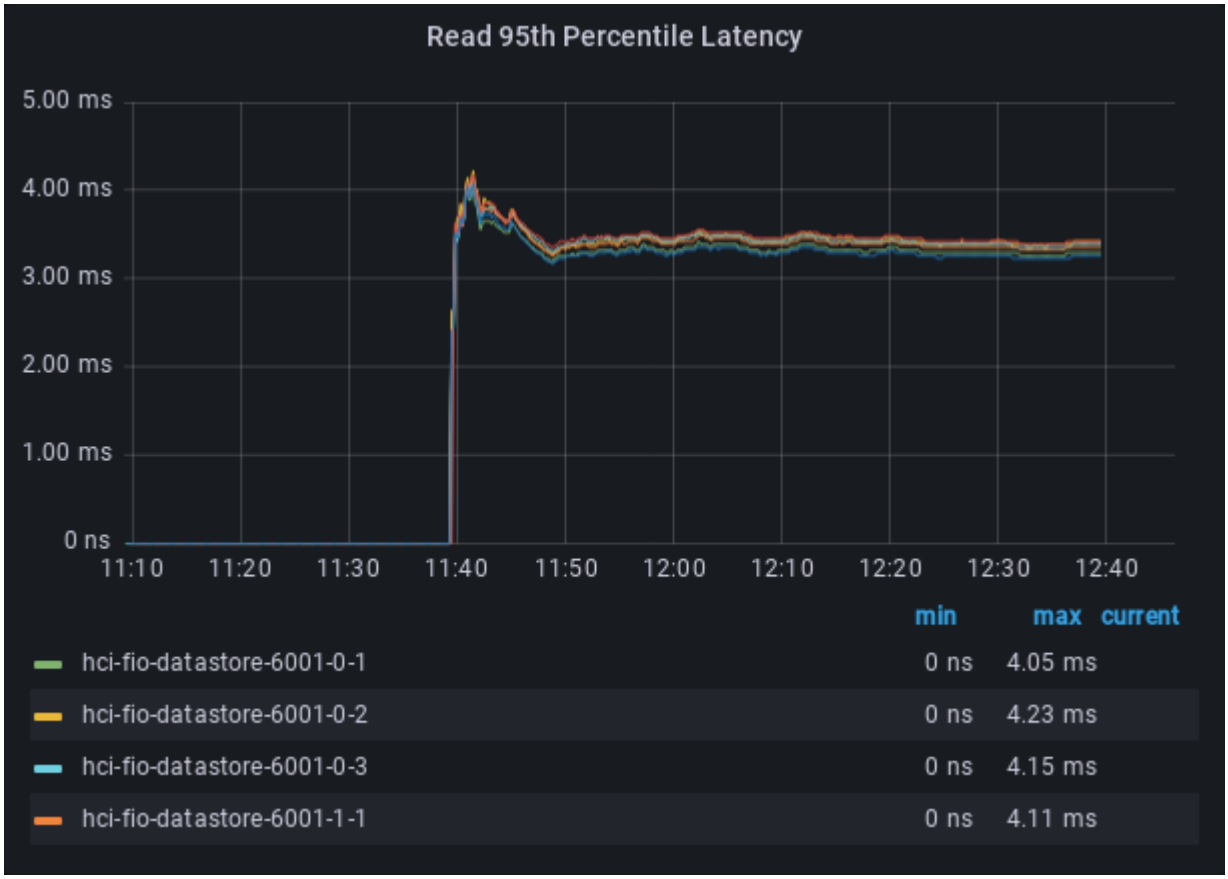
Performance Charts

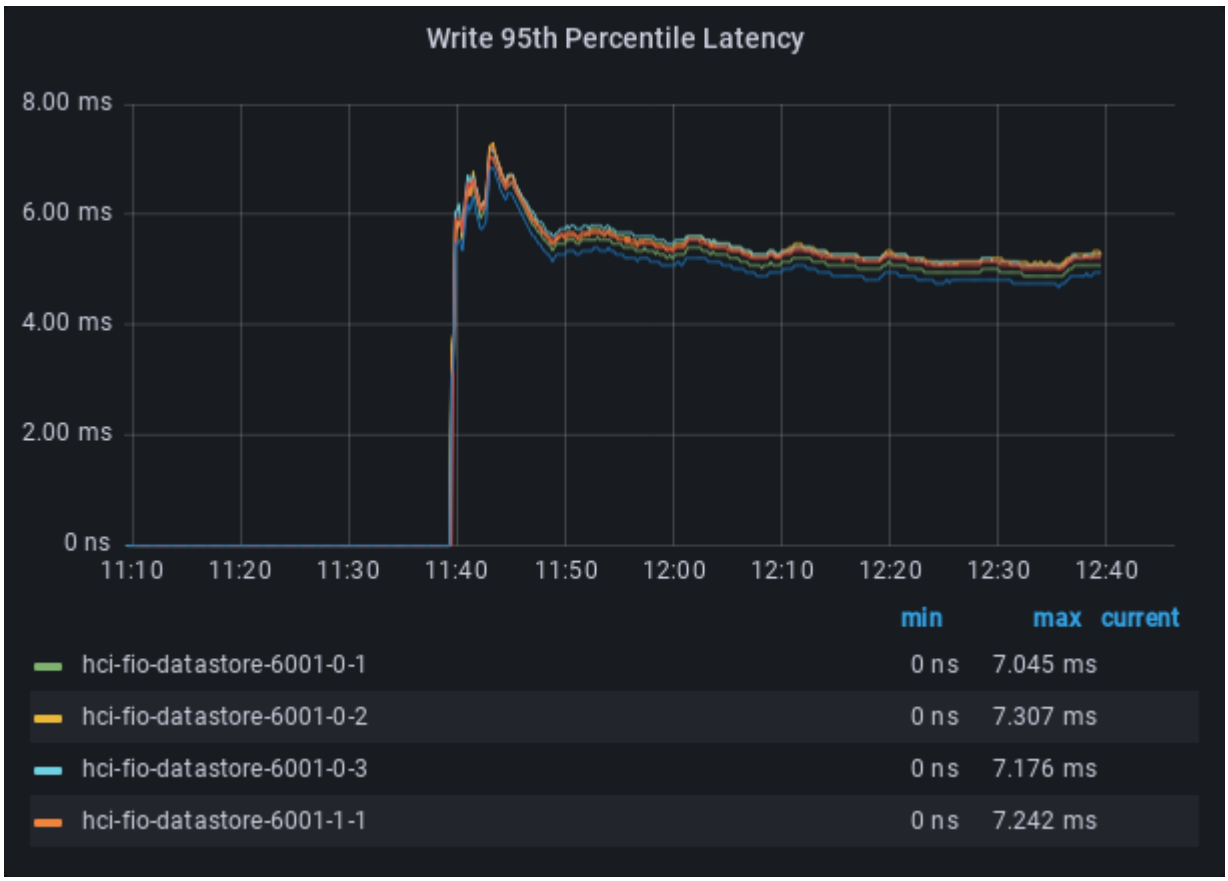

Fio IOPS
30 K
25 K
20 K
15 K
10 K
5 K
0
11:10
11:20
11:30
11:40
11:50
12:00
12:10
12:20
12:30
12:40
min
max
avg
current
hci-fio-datastore-6001-0-1 13.30 K 24.39 K 17.40 K
hci-fio-datastore-6001-0-2 12.77 K 21.28 K 16.19 K
hci-fio-datastore-6001-0-3 8.14 K 24.46 K 16.75 K
hci-fio-datastore-6001-1-1 10.44 K 21.68 K 16.36 K

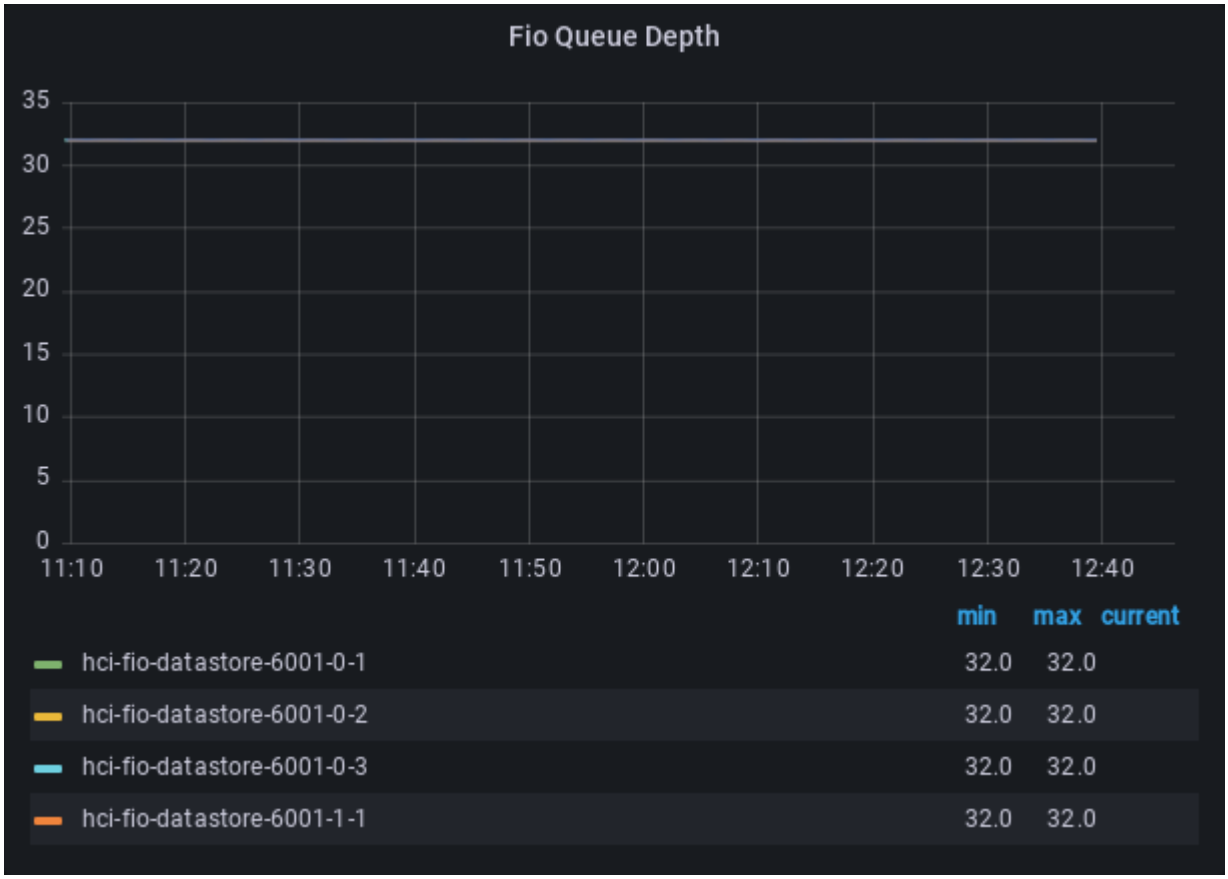

Fio Throughput
250 MB/s
200 MB/s
150 MB/s
100 MB/s
50 MB/s
0 kB/s
11:10
11:20
11:30
11:40
11:50
12:00
12:10
12:20
12:30
12:40
min
max
avg
current
hci-fio-datastore-6001-0-1 106 MB/s 195 MB/s 139 MB/s
hci-fio-datastore-6001-0-2 102 MB/s 170 MB/s 129 MB/s
hci-fio-datastore-6001-0-3 100 MB/s 196 MB/s 134 MB/s
hci-fio-datastore-6001-1-1 83.6 MB/s 173 MB/s 131 MB/s


Fio Read Latency
2.00 ms
1.50 ms
1.00 ms
500.00 µs
0 ns
11:10
11:20
11:30
11:40
11:50
12:00
12:10
12:20
12:30
12:40
min max avg current
hci-fio-datastore-6001-0-1 0 ns 1.65 ms 1.01 ms
hci-fio-datastore-6001-0-2 0 ns 1.79 ms 1.08 ms
hci-fio-datastore-6001-0-3 0 ns 1.73 ms 1.05 ms
hci-fio-datastore-6001-1-1 0 ns 1.76 ms 1.07 ms


Fio Write Latency
3.50 ms
3.00 ms
2.50 ms
2.00 ms
1.50 ms
1.00 ms
500.00 µs
0 ns
11:10
11:20
11:30
11:40
11:50
12:00
12:10
12:20
12:30
12:40
min max avg current
hci-fio-datastore-6001-0-1 0 ns 3 ms 2 ms
hci-fio-datastore-6001-0-2 0 ns 3 ms 2 ms
hci-fio-datastore-6001-0-3 0 ns 3 ms 2 ms
hci-fio-datastore-6001-1-1 0 ns 3 ms 2 ms


Read 95th Percentile Latency
5.00 ms
4.00 ms
3.00 ms
2.00 ms
1.00 ms
0 ns
11:10
11:20
11:30
11:40
11:50
12:00
12:10
12:20
12:30
12:40
min
max
current
hci-fio-datastore-6001-0-1
0 ns
4.05 ms
hci-fio-datastore-6001-0-2
0 ns
4.23 ms
hci-fio-datastore-6001-0-3
0 ns
4.15 ms
hci-fio-datastore-6001-1-1
0 ns
4.11 ms


Write 95th Percentile Latency
8.00 ms
6.00 ms
4.00 ms
2.00 ms
0 ns
11:10
11:20
11:30
11:40
11:50
12:00
12:10
12:20
12:30
12:40
min
max
current
hci-fio-datastore-6001-0-1
0 ns
7.045 ms
hci-fio-datastore-6001-0-2
0 ns
7.307 ms
hci-fio-datastore-6001-0-3
0 ns
7.176 ms
hci-fio-datastore-6001-1-1
0 ns
7.242 ms



Dashboards Links

Fio Benchmark Dashboard in Grafana
vSAN Performance Stats in Grafana
vSAN Observer Dashboard
vSAN Overview Dashboard in Grafana

HCIBench Configurations

Delete Guest VMs after Testing: false
Multi-Write VMDK: false
Size of Data Disk in GB: 8
Virtual Disk Preparation Method: ZERO
Datastore Name: vsanDatastore
Clear Read/Write Cache/Buffer Before Test: true
Use Internal Static IP: false
Number of vCPU per VM: 4
Number of Data Disk per VM: 8
Storage Policy Name: Datastore Default Policy
Directly Deploy on Hosts: false
vSAN Debug Mode: true
Workload Parameter File Source: /opt/tmp/tmp1692010023
Datacenter Name: EE Training Datacenter
Size(GB) of RAM per VM: 8
Cluster Name: EE-Cluster
Reuse Existing VMs: false
Network Name: VM Network
Easy Run: true
Easy Run Workloads: 8k50r
vCenter IP/Hostname: vcenter7.cyrus-consultants.co.uk
Tool to Use: fio
Guest VM Name Prefix: hci-fio
Test Name: easy-run-1692010023
Number of Guest VMs: 6
VM Folder Name: HCI-Bench-Test-Folder

vSAN Configurations

Local vSAN Datastore Name: vsanDatastore
vSAN ESA Enabled: False
vSAN Type: All-Flash
Number of Hosts: 3
Disk Groups per Host: 1
Total Cache Disk Size: 1047 GB
Capacity Disk per Disk Group: 2
Space Efficiency: None
Data At-Rest Encryption: false
Data In-Transit Encryption: false
Fault Tolerance Preference: RAID-1(Mirroring)-Performance
Host Primary Fault Tolerance: 1
Host Secondary Fault Tolerance: 0
Checksum Disabled: False

Capacity: 2445 GB
Freespace: 1937 GB
Local: 'True'
==========
Cluster Hosts Map

EE-Cluster:
- esxi009.cyrus-consultants.co.uk
- esxi011.cyrus-consultants.co.uk
- esxi007.cyrus-consultants.co.uk

Benchmark Tool Configurations

```
; Auto generated FIO parameter file
; block_size: 8k
; testing_time: 3600
; warmup_time: 1800
; nb_disks: 8
; io_rate: None
; read_pct: 50
; random_pct: 100
; working_set: 100
; nb_threads: 4

[global]
runtime=3600
time_based=1
ramp_time=1800
direct=1
buffered=0
fsync=0
readwrite=randrw
rwmixread=50
percentage_random=100
random_generator=tausworthe64
blocksize=8K
ioengine=libaio
group_reporting
lat_percentiles=1
continue_on_error=all

[job0]
filename=/dev/sda
size=100%
iodepth=4

[job1]
filename=/dev/sdb
size=100%
iodepth=4

[job2]
filename=/dev/sdc
size=100%
iodepth=4

[job3]
filename=/dev/sdd
size=100%
iodepth=4
```

```
[job4]
filename=/dev/sde
size=100%
iodepth=4

[job5]
filename=/dev/sdf
size=100%
iodepth=4

[job6]
filename=/dev/sdg
size=100%
iodepth=4

[job7]
filename=/dev/sdh
size=100%
iodepth=4
```