HCIBench Report

Test Case Name:	fio-8vmdk-100ws-4k-70rdpct-100randompct-4threads-50compress-50dedupe-169099952
Report Date:	2023-08-02 19:37:39 +0000
Generated by:	HCIBench_2.8.2

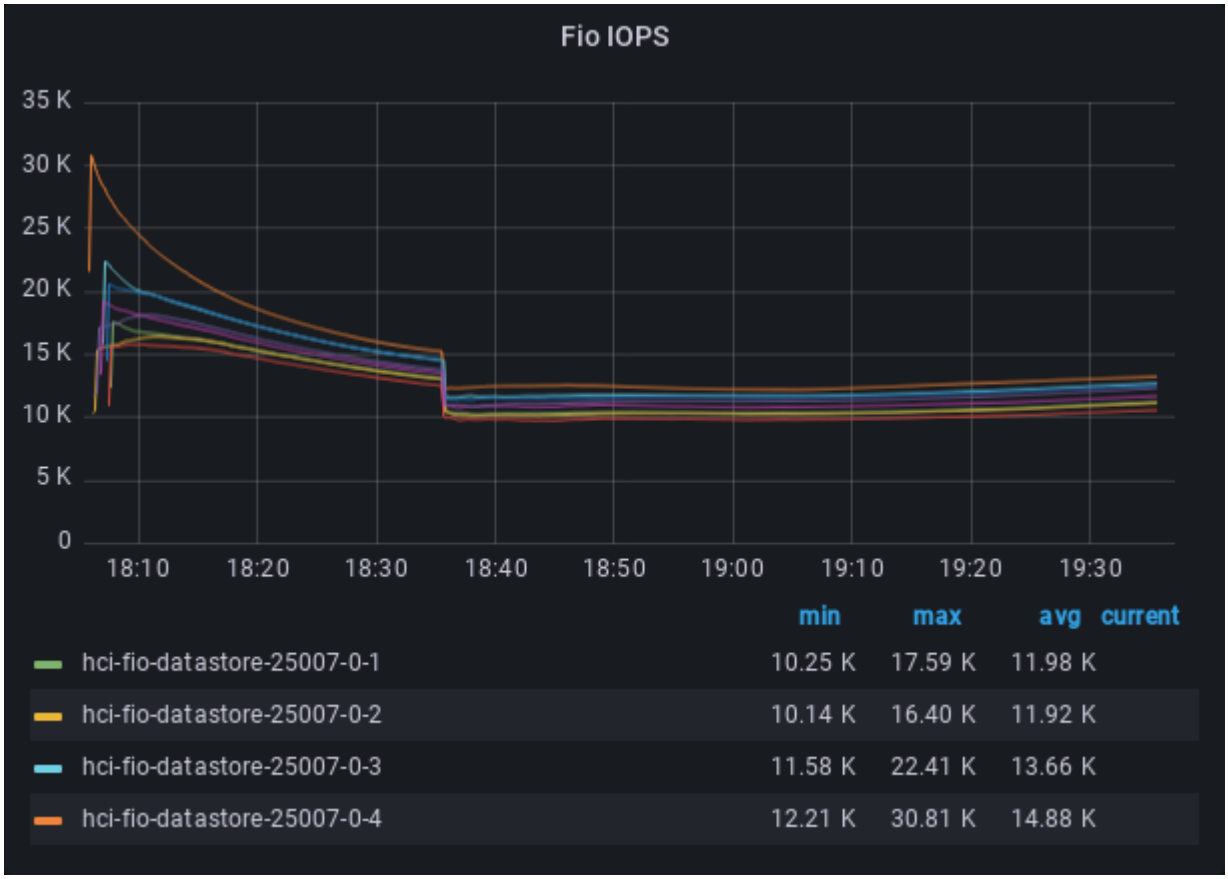
Performance Results

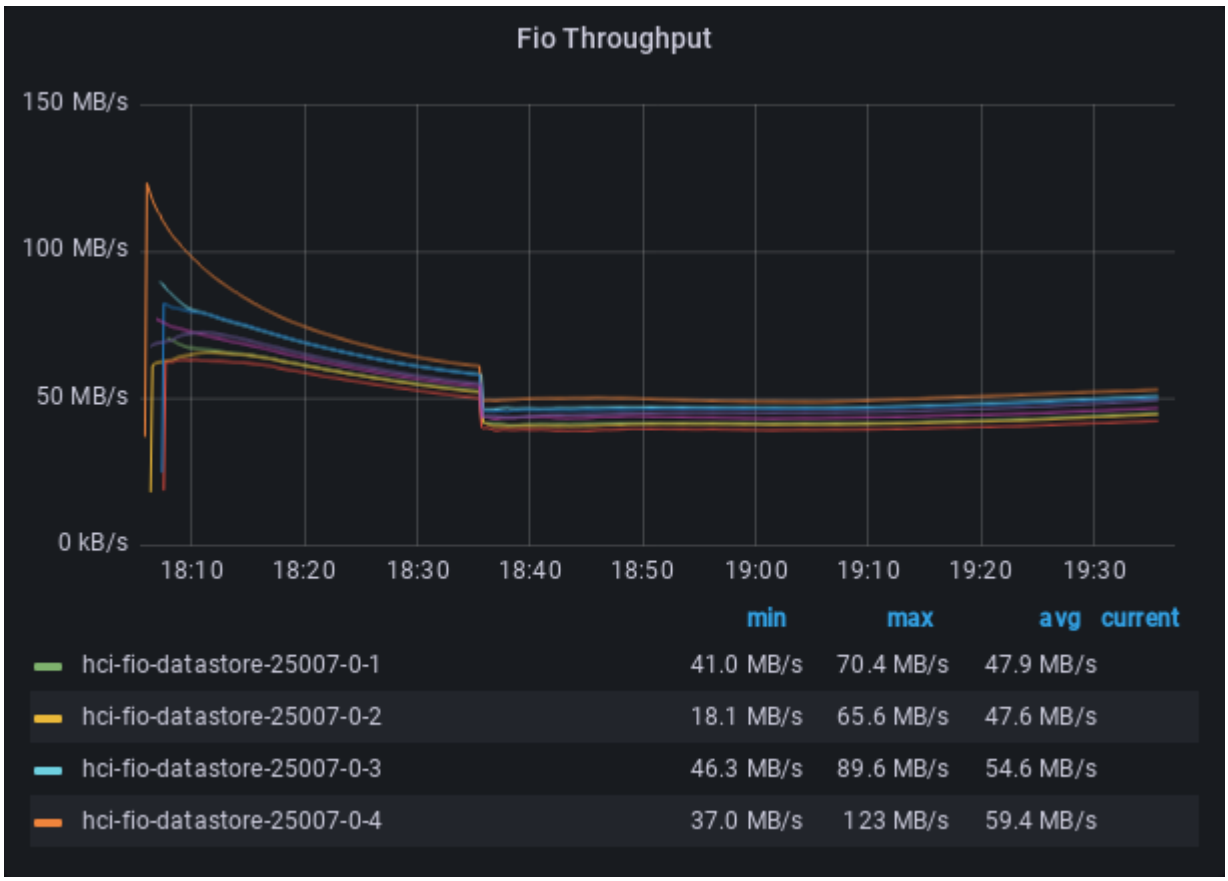
Datastore: vsanDatastore
==========
JOB_NAME: job0
Number of VMs: 8
I/O per Second: 95541.22 IO/S
Throughput: 373.00 MB/s
Read Latency: 3.47 ms
Write Latency: 0.87 ms
95th Percentile Read Latency: 10.00 ms
95th Percentile Write Latency: 1.00 ms
==========

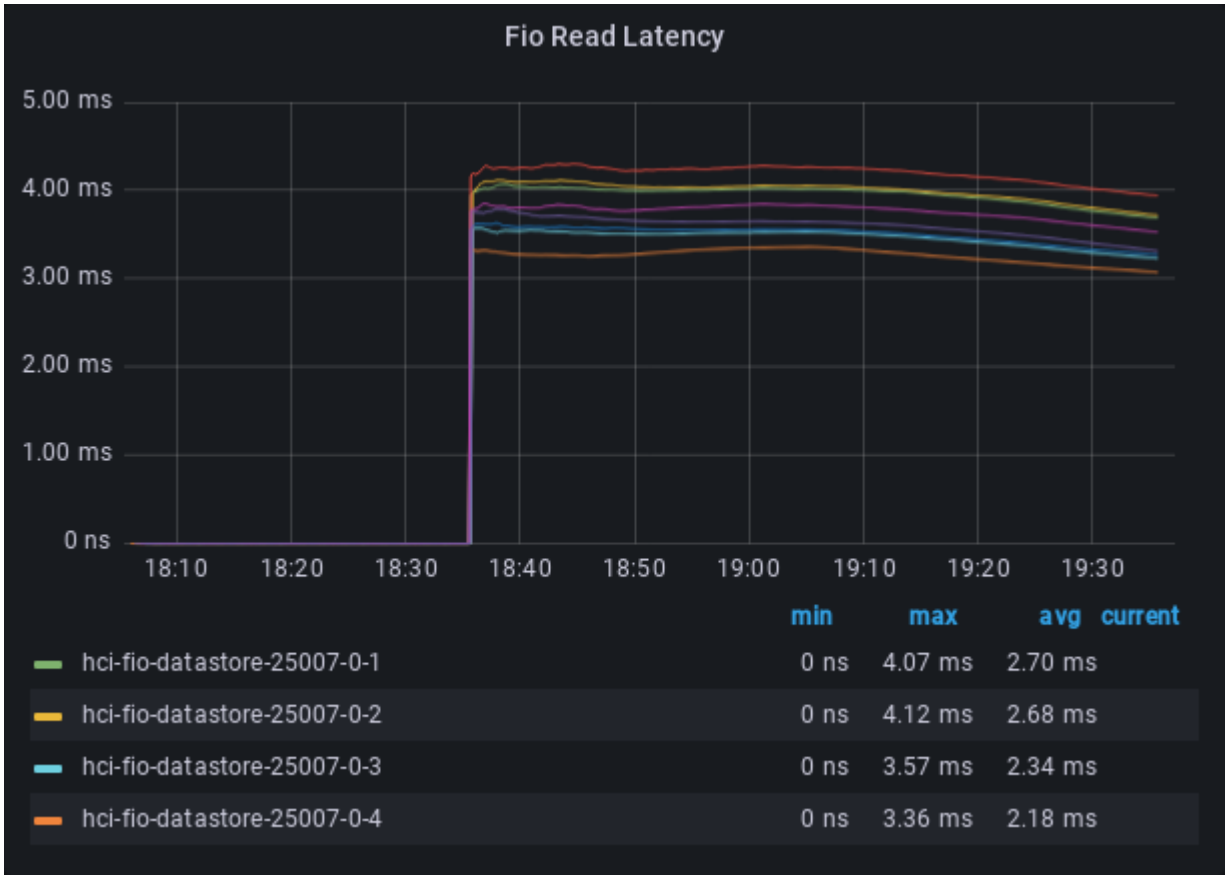
Resource Usage

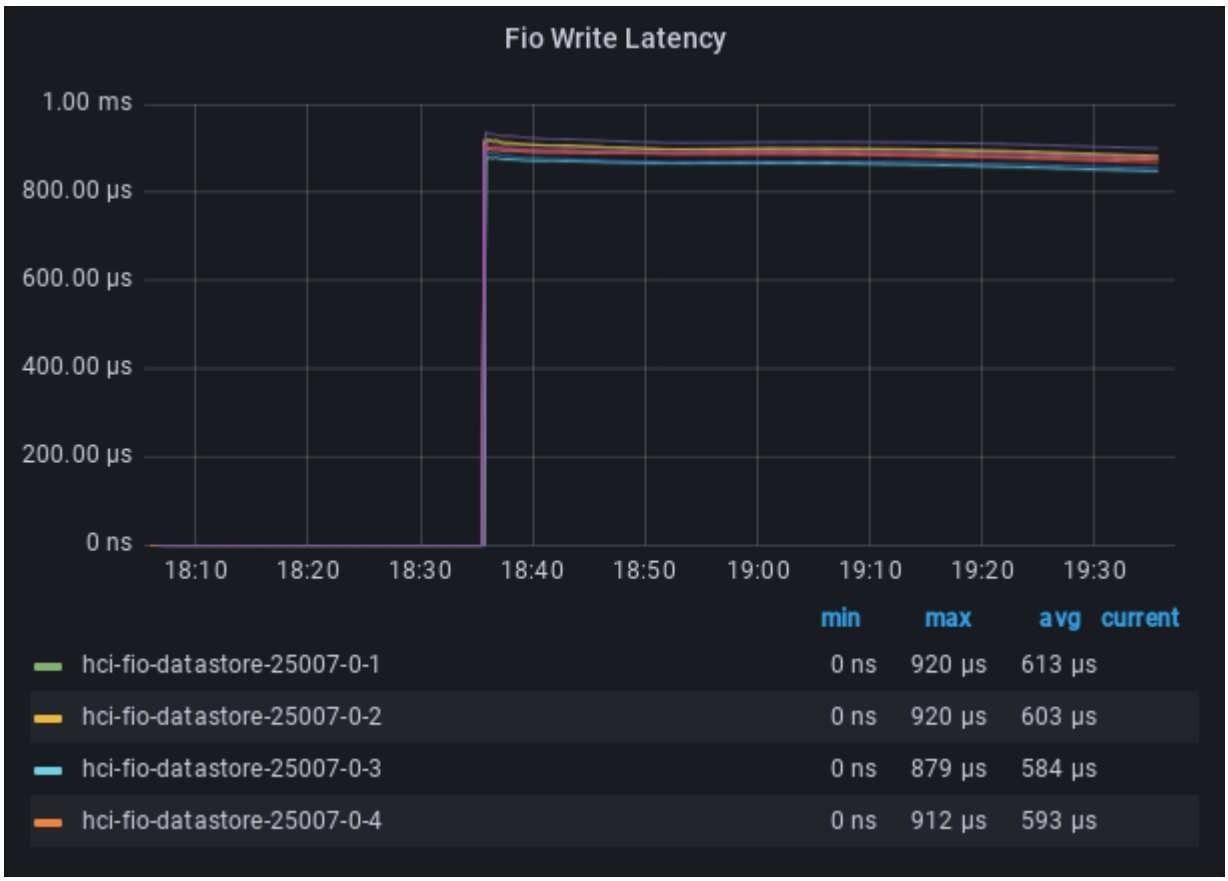
Cluster	cpu.usage	cpu.utilization	mem.usage
Management	59.48%	30.83%	90.27%

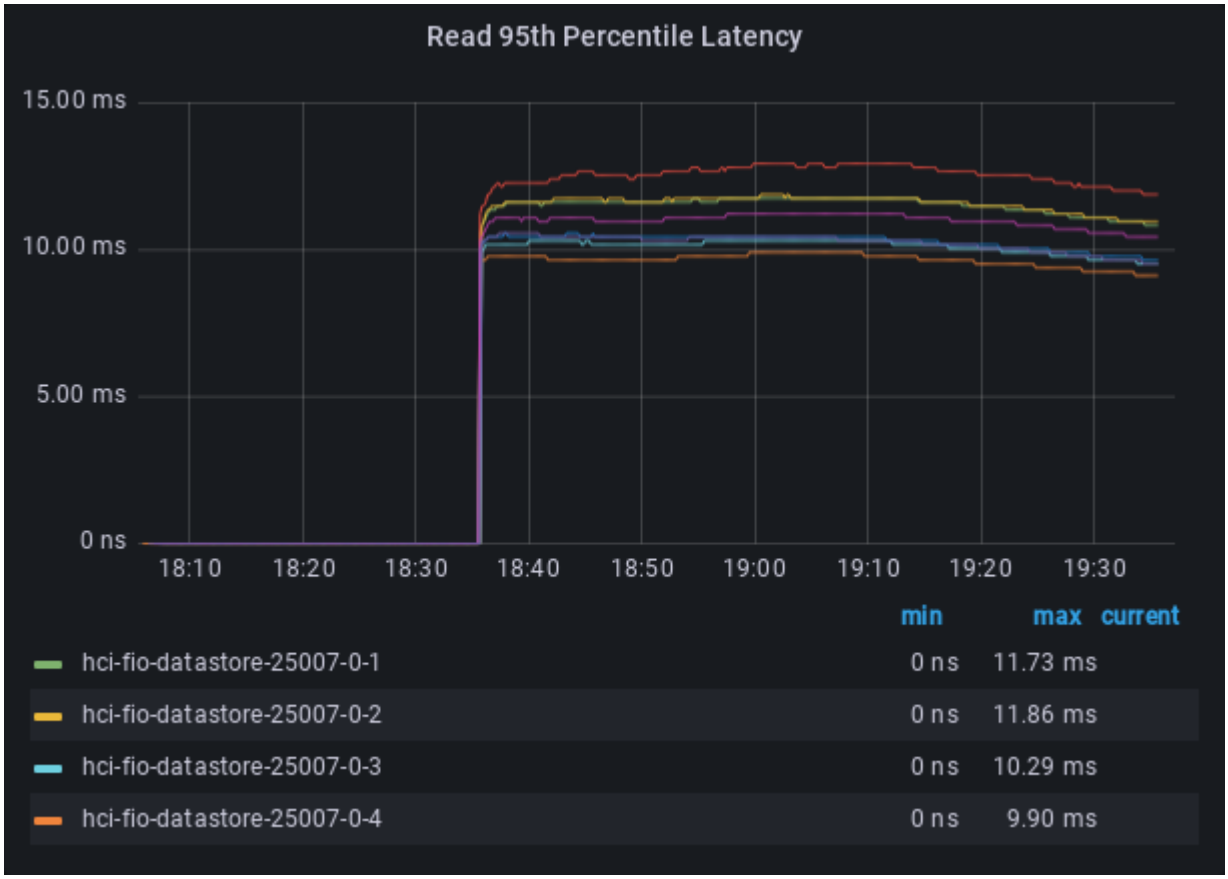
Performance Charts

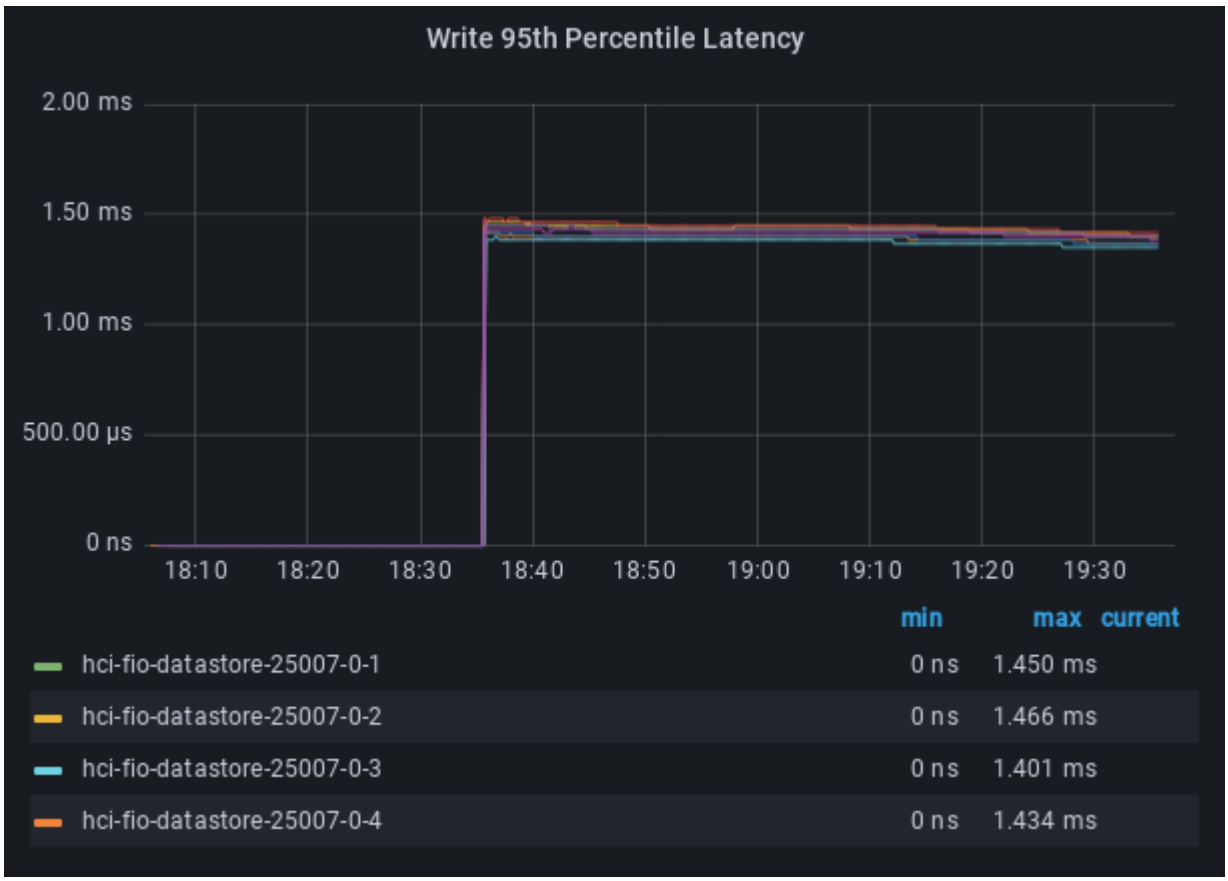

Fio IOPS
35 K
30 K
25 K
20 K
15 K
10 K
5 K
0
18:10
18:20
18:30
18:40
18:50
19:00
19:10
19:20
19:30
min max avg current
hci-fio-datastore-25007-0-1 10.25 K 17.59 K 11.98 K
hci-fio-datastore-25007-0-2 10.14 K 16.40 K 11.92 K
hci-fio-datastore-25007-0-3 11.58 K 22.41 K 13.66 K
hci-fio-datastore-25007-0-4 12.21 K 30.81 K 14.88 K

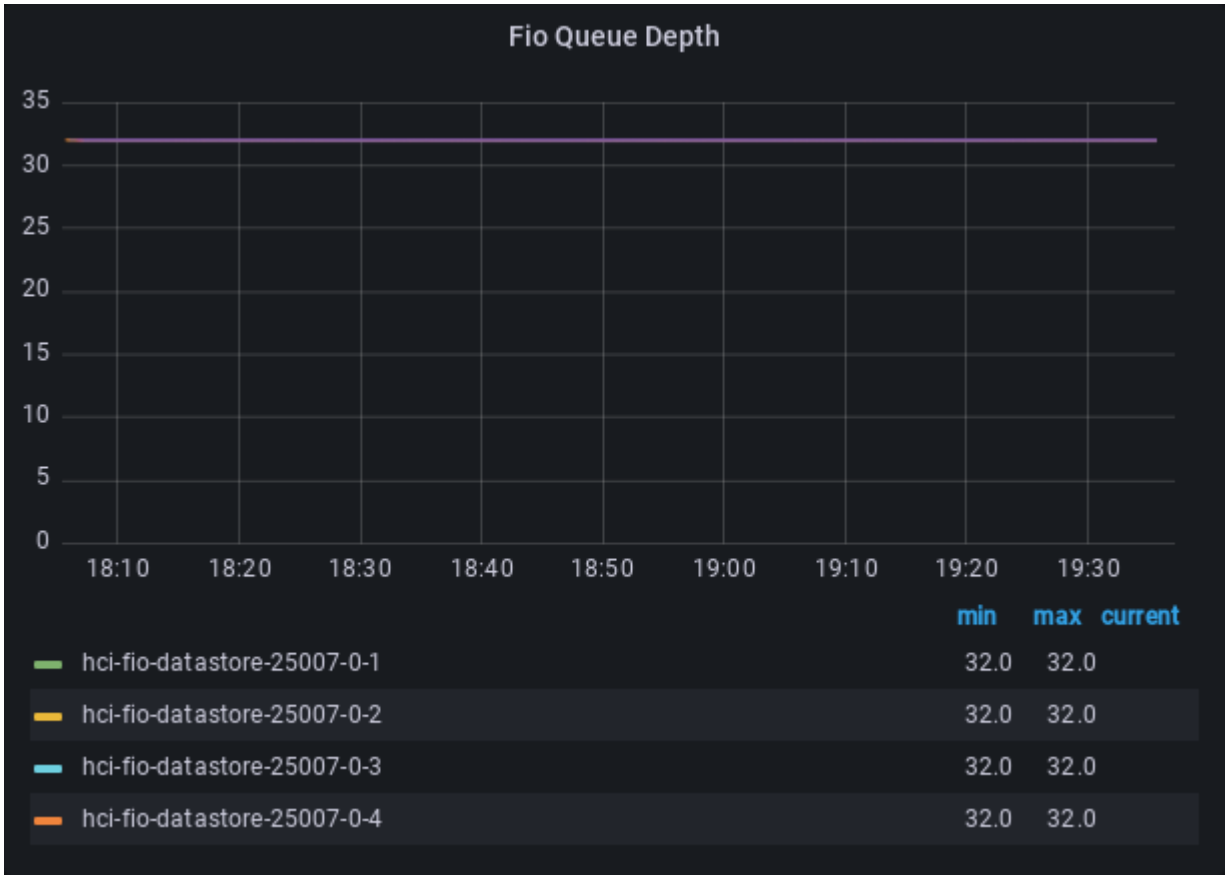

Fio Throughput
150 MB/s
100 MB/s
50 MB/s
0 kB/s
18:10
18:20
18:30
18:40
18:50
19:00
19:10
19:20
19:30
min max avg current
hci-fio-datastore-25007-0-1 41.0 MB/s 70.4 MB/s 47.9 MB/s
hci-fio-datastore-25007-0-2 18.1 MB/s 65.6 MB/s 47.6 MB/s
hci-fio-datastore-25007-0-3 46.3 MB/s 89.6 MB/s 54.6 MB/s
hci-fio-datastore-25007-0-4 37.0 MB/s 123 MB/s 59.4 MB/s


Fio Read Latency
5.00 ms
4.00 ms
3.00 ms
2.00 ms
1.00 ms
0 ns
18:10
18:20
18:30
18:40
18:50
19:00
19:10
19:20
19:30
min max avg current
hci-fio-datastore-25007-0-1 0 ns 4.07 ms 2.70 ms
hci-fio-datastore-25007-0-2 0 ns 4.12 ms 2.68 ms
hci-fio-datastore-25007-0-3 0 ns 3.57 ms 2.34 ms
hci-fio-datastore-25007-0-4 0 ns 3.36 ms 2.18 ms


Fio Write Latency
1.00 ms
800.00 µs
600.00 µs
400.00 µs
200.00 µs
0 ns
18:10
18:20
18:30
18:40
18:50
19:00
19:10
19:20
19:30
min max avg current
hci-fio-datastore-25007-0-1 0 ns 920 µs 613 µs
hci-fio-datastore-25007-0-2 0 ns 920 µs 603 µs
hci-fio-datastore-25007-0-3 0 ns 879 µs 584 µs
hci-fio-datastore-25007-0-4 0 ns 912 µs 593 µs


Read 95th Percentile Latency
15.00 ms
10.00 ms
5.00 ms
0 ns
18:10
18:20
18:30
18:40
18:50
19:00
19:10
19:20
19:30
min
max
current
hci-fio-datastore-25007-0-1
0 ns
11.73 ms
hci-fio-datastore-25007-0-2
0 ns
11.86 ms
hci-fio-datastore-25007-0-3
0 ns
10.29 ms
hci-fio-datastore-25007-0-4
0 ns
9.90 ms


Write 95th Percentile Latency
2.00 ms
1.50 ms
1.00 ms
500.00 µs
0 ns
18:10
18:20
18:30
18:40
18:50
19:00
19:10
19:20
19:30
min
max
current
hci-fio-datastore-25007-0-1
0 ns
1.450 ms
hci-fio-datastore-25007-0-2
0 ns
1.466 ms
hci-fio-datastore-25007-0-3
0 ns
1.401 ms
hci-fio-datastore-25007-0-4
0 ns
1.434 ms



Dashboards Links

Fio Benchmark Dashboard 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: 14
Virtual Disk Preparation Method: RANDOM
Datastore Name: vsanDatastore
Clear Read/Write Cache/Buffer Before Test: false
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: false
Workload Parameter File Source: /opt/tmp/tmp1690997662
Datacenter Name: Datacenter
Size(GB) of RAM per VM: 8
Cluster Name: Management
Reuse Existing VMs: false
Network Name: Desktop
Easy Run: true
Easy Run Workloads: 4k70r
vCenter IP/Hostname: 10.0.1.111
Tool to Use: fio
Guest VM Name Prefix: hci-fio
Test Name: easy-run-1690997662
Number of Guest VMs: 8
VM Folder Name: HCIBench

vSAN Configurations

Local vSAN Datastore Name: vsanDatastore
vSAN ESA Enabled: False
vSAN Type: All-Flash
Number of Hosts: 4
Disk Groups per Host: 1
Total Cache Disk Size: 2400 GB
Capacity Disk per Disk Group: 1
Space Efficiency: Deduplication/Compression
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: 7630 GB
Freespace: 4592 GB
Local: 'True'
==========
Cluster Hosts Map

Management:
- vdr-esxmgt03.vdr.one
- vdr-esxmgt02.vdr.one
- vdr-esxmgt01.vdr.one
- vdr-esxmgt04.vdr.one

Benchmark Tool Configurations

```
; Auto generated FIO parameter file
; block_size: 4k
; testing_time: 3600
; warmup_time: 1800
; nb_disks: 8
; io_rate: None
; read_pct: 70
; random_pct: 100
; working_set: 100
; nb_threads: 4
; buffer_compress_pct: 50
; dedupe_pct: 50

[global]
runtime=3600
time_based=1
ramp_time=1800
direct=1
buffered=0
fsync=0
readwrite=randrw
rwmixread=70
percentage_random=100
random_generator=tausworthe64
blocksize=4K
buffer_compress_percentage=50
dedupe_percentage=50
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
```