Vdbench Script Configuration for Emerald

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SNIA Emerald™

Emerald Vdbench Script Configuration

- ❖ There are two sets of parameters within the Vdbench Script template that require editing

- ❖ The number of threads to be used for each of the 5 workloads These determine with IO intensity applied by Vdbench (dependent on the robustness of the storage device)

- ❖ The storage target designators that provide the IO path to the actual address space

Emerald Vdbench Script Configuration

- The thread count for several of the workloads should be the same

- The prefill threads should = the sequential write threads as they perform the same function

- The conditioning thread count must = the Hot Band thread count as conditioning is done @ 100 load

- In all cases, the thread count limit is determined by:
  - The 20 ms. response time ceiling or,
  - The maximum IO rate of MB/s rate below 20 ms RT

Emerald Vdbench Script Template

Pre=fill storage workload.
Replace Change_a1 with the number of streams across the concatenated storage space.
Hint: Normally Change_a2 equates to Change_a1.

wd=wd_fill,sd=sd*,seekpct=eof,streams=Change_a1

###################
#Pre-fill and Conditioning Test definitions.
##################

Pre-fill Test.
Procedure to fill storage.
Replace Change_y1 with the optimal number of threads that the system under test can handle and fill the storage space quickly.
The number of threads (Change_y1) for the pre-fill workload shall be a multiple of Change_a1.
Hint: After tuning Change_y2 below, set Change_y1 = Change_y2.

rd=rd_prefill,wd=wd_fill,iorate=max,rdpct=0,xfersize=256K,elapsed=5000m,interval=60,th=Change_y1

Conditioning Test.
Test to condition and stabilize the storage system under test.
Replace Change_x1 with the optimal number of threads for the system under test. Recommend ~8 per physical drive in system.

# After tuning to determine Change_x2 below, Change_x1 shall be set = Change_x2.
rd=rd_conditioning,wd=HOTwd*,iorate=MAX,warmup=10m,elapsed=12H,interval=60,th=Change_x1

Emerald Vdbench Script Template

```
##################
# Active Test Definitions
##################
# Default parameters used for all active run definitions.
rd=default,iorate=MAX,elapsed=31m,interval=60
# Hot Band Test Phase.
# Replace Change_x2 with the optimal number of threads for the system under test.  Recommend ~8 per physical drive in system.
rd=rd_hband_final,wd=HOTwd*,th=Change_x2
# Random Write Test Phase.
# Replace Change_x3 with the optimal number of threads for the system under test.  Recommend ~4-8 per physical drive in system.
rd=rd_rw_warm,wd=wd_mixed,rdpct=0,xfersize=8k,elapsed=10m,th=Change_x3
 #Added section for warmup period of 10 minutes.
rd=rd_rw_final,wd=wd_mixed,rdpct=0,xfersize=8k,th=Change_x3
# Random Read Test Phase.
# Replace Change_x4 with the optimal number of threads for the system under test.  Recommend ~8 per physical drive in system.
rd=rd_rr_warm,wd=wd_mixed,rdpct=100,xfersize=8k,elapsed=10m,th=Change_x4
rd=rd_rr_final,wd=wd_mixed,rdpct=100,xfersize=8k,th=Change_x4
# Sequential Write Test Phase.
# Replace Change_y2 with the optimal number of threads for the system under test.  Recommend 2-3 per physical drive in system.
# The number of threads (Change_y2) for the sequential workload shall be a multiple of Change_a2.
rd=rd_sw_warm,wd=wd_seq,rdpct=0,xfersize=256K,elapsed=10m,th=Change_y2.
rd=rd_sw_final,wd=wd_seq,rdpct=0,xfersize=256K,th=Change_y2
```

Emerald Vdbench Script Template

# Sequential Read Test Phase
# Replace Change_y3 with the optimal number of threads for the system under test. Recommend 2-3 per physical drive in system.
# The number of threads (Change_y3) for the sequential workload shall be a multiple of Change_a2.
rd=rd_sr_warm,wd=wd_seq,rdpct=100,xfersize=256K,elapsed=10m,th=Change_y3
rd=rd_sr_final,wd=wd_seq,rdpct=100,xfersize=256K,th=Change_y3

For additional information see http://sniaemerald.com

##################
END
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