Intel® oneAPI VTune™ Profiler 2021.1.1 Gold

Elapsed Time:	42.145s
Clockticks:	94,883,400,000
Instructions Retired:	234,109,800,000
CPI Rate:	0.405
MUX Reliability:	0.999
Retiring:	64.4% of Pipeline Slots
Light Operations:	59.4% of Pipeline Slots
FP Arithmetic:	1.2% of uOps
FP x87:	0.0% of uOps
FP Scalar:	1.1% of uOps
FP Vector:	0.0% of uOps
Other:	98.8% of uOps
Heavy Operations:	5.0% of Pipeline Slots
Microcode Sequencer:	1.3% of Pipeline Slots
Assists:	0.0% of Pipeline Slots
Front-End Bound:	17.9% of Pipeline Slots
Front-End Latency:	6.7% of Pipeline Slots
ICache Misses:	3.2% of Clockticks
ITLB Overhead:	0.5% of Clockticks
Branch Resteers:	3.2% of Clockticks
Mispredicts Resteers:	2.5% of Clockticks
Clears Resteers:	0.0% of Clockticks
Unknown Branches:	0.7% of Clockticks
DSB Switches:	2.1% of Clockticks
Length Changing Prefixes:	0.1% of Clockticks
MS Switches:	1.0% of Clockticks
Front-End Bandwidth:	11.2% of Pipeline Slots
Front-End Bandwidth MITE:	27.0% of Clockticks
Front-End Bandwidth DSB:	5.8% of Clockticks
(Info) DSB Coverage:	38.0%
Bad Speculation:	6.2% of Pipeline Slots
Branch Mispredict:	6.1% of Pipeline Slots
Machine Clears:	0.1% of Pipeline Slots

Back-End Bound:	11.5% of Pipeline Slots	
Memory Bound:	2.9% of Pipeline Slots	
L1 Bound:	4.6% of Clockticks	
DTLB Overhead:	8.8% of Clockticks	
Load STLB Hit:	8.7% of Clockticks	
Load STLB Miss:	0.0% of Clockticks	
Loads Blocked by Store Forwarding:	7.5% of Clockticks	
Lock Latency:	0.0% of Clockticks	
Split Loads:	0.4% of Clockticks	
4K Aliasing:	1.6% of Clockticks	
FB Full:	0.4% of Clockticks	
L2 Bound:	0.5% of Clockticks	
L3 Bound:	0.7% of Clockticks	
Contested Accesses:	0.0% of Clockticks	
Data Sharing:	0.0% of Clockticks	
L3 Latency:	3.2% of Clockticks	
SQ Full:	0.1% of Clockticks	
DRAM Bound:	0.1% of Clockticks	
Memory Bandwidth:	1.1% of Clockticks	
Memory Latency:	4.2% of Clockticks	
Store Bound:	1.7% of Clockticks	
Store Latency:	12.2% of Clockticks	
False Sharing:	0.0% of Clockticks	
Split Stores:	0.3% of Clockticks	
DTLB Store Overhead:	5.4% of Clockticks	
Store STLB Hit:	5.4% of Clockticks	
Store STLB Hit:	0.0% of Clockticks	
Core Bound:	8.5% of Pipeline Slots	
Divider:	0.5% of Clockticks	
Port Utilization:	22.2% of Clockticks	
Cycles of 0 Ports Utilized:	6.4% of Clockticks	
Serializing Operations:	0.8% of Clockticks	
Mixing Vectors:	0.0% of uOps	
Cycles of 1 Port Utilized:	5.2% of Clockticks	
Cycles of 2 Ports Utilized:	8.4% of Clockticks	
Cycles of 3+ Ports Utilized:	30.3% of Clockticks	
ALU Operation Utilization:	39.0% of Clockticks	
Port 0:	35.2% of Clockticks	
Port 1:	39.7% of Clockticks	
Port 5:	39.7% of Clockticks	
Port 6:	41.5% of Clockticks	
Load Operation Utilization:	36.1% of Clockticks	
Port 2:	44.8% of Clockticks	
Port 3:	45.4% of Clockticks	
Store Operation Utilization:	35.2% of Clockticks	
Port 4:	35.2% of Clockticks	
Port 7:	17.2% of Clockticks	
Vector Capacity Usage (FPU):	24.5%	
Average CPU Frequency:	2.287 GHz	
Total Thread Count:	1	
Paused Time:	0s	

Effective Physical Core Utilization: 24.4% (0.975 out of 4)

> The metric value is low, which may signal a poor physical
> CPU cores utilization caused by:
>   - load imbalance
>   - threading runtime overhead
>   - contended synchronization
>   - thread/process underutilization
>   - incorrect affinity that utilizes logical cores instead
> of physical cores
> Explore sub-metrics to estimate the efficiency of MPI and
> OpenMP parallelism or run the Locks and Waits analysis to
> identify parallel bottlenecks for other parallel runtimes.

Effective Logical Core Utilization: 12.3% (0.984 out of 8)

> The metric value is low, which may signal a poor logical
> CPU cores utilization. Consider improving physical core
> utilization as the first step and then look at
> opportunities to utilize logical cores, which in some
> cases can improve processor throughput and overall
> performance of multi-threaded applications.

Collection and Platform Info:
  Application Command Line: ./codecs/hm/encoder/TAppEncoderStatic "-c" "./configs/hm/encoder_lowdelay_main.cfg" "-i" "./sequences/CLASS_A/Kimono_1920x1080_24.yuv" "-wdt" "1920" "-hgt" "1080" "-b" "./bin/hm/encoder_lowdelay_main.cfg/CLASS_A/Kimono_1920x1080_24_QP_27_hm.bin" "-o" "./rec_yuv/hm/encoder_lowdelay_main.cfg/CLASS_A/Kimono_1920x1080_24_QP_27_hm.yuv" "-fr" "24" "-fs" "0" "-f" "2" "-q" "27"

  User Name: root

  Operating System: 5.4.0-65-generic DISTRIB_ID=Ubuntu DISTRIB_RELEASE=18.04 DISTRIB_CODENAME=bionic DISTRIB_DESCRIPTION="Ubuntu 18.04.5 LTS"

  Computer Name: eimon

  Result Size: 105.6 MB

  Collection start time: 05:00:22 10/02/2021 UTC

  Collection stop time: 05:01:04 10/02/2021 UTC

  Collector Type: Event-based sampling driver

CPU:
  Name: Intel(R) Processor code named Kabylake
  ULX

  Frequency: 1.992 GHz

  Logical CPU Count: 8

  Cache Allocation Technology:
    Level 2 capability: not detected

    Level 3 capability: not detected