Intel® VTune™ Profiler

Cheat Sheet

vtune <-action> [-action-option] [-global-option] [[--] <target> [target-options]]

1 Run Analysis

-collect	Run analysis of certain type
performance-snapshot	
hotspots	
anomaly-detection	
memory-consumption	
uarch-exploration	
memory-access	
threading	
hpc-performance	
io	
gpu-offload	
gpu-hotspots	
fpga-interaction	
system-overview	
platform-profiler	

Run Hotspots analysis on application
`vtune -collect hotspots /app`

Action Options:

-r, -result-dir=<str>	Specify result directory path
-target-pid=<uint>	Specify a running process to attach to by PID
-target-process=<str>	Specify a running process to attach to by process name
-finalization-mode=full/fast/deferred/none	Select finalization type to perform after collection, default is fast
-resume-after=<double>	Specify time (seconds) to delay collection start after application start
-search-dir=<str>	Specify directory(-ies) for binary and symbol files search, use multiple times if necessary
-source-search-dir=<str>	Specify directory(-ies) for source files search, use multiple times if necessary
-app-working-dir=<str>	Specify application working directory
-target-system=<str>	Select target system for remote collection, use ssh:user@target for SSH
-start-paused	Start collection paused to resume later
-k, -knob=<str>	Apply knob, an analysis-specific modifier

2 Run Custom Analysis

-collect-with	Run custom collection with collector
runsa	Hardware event-based sampling
runss	User-mode sampling

Action Options:

-k, -knob=<str>	Apply knob, an analysis-specific modifier

See available knobs for the runsa collector
`vtune -help collect-with runsa`

See available events on the target PMU
`vtune -collect-with runsa -knob event-config=? <target>`

3 Control Running Analysis

-command	Issue command to running collection
pause	Pause collection
resume	Resume collection
stop	Stop collection
status	Print current status
mark	Place reference timestamp in data

Action Options:

-r, -result-dir=<str>	Specify collection to issue command to by providing result directory

Resume collection being performed into result r000hs
`vtune -command resume -r r000hs`

4 Resolve Result

-I, -finalize	Re-finalize an existing result

Action Options:

-r, -result-dir=<str>	Specify result to finalize
-finalization-mode=full/fast/deferred/none	Select finalization mode to use, default is fast
-search-dir=<str>	Specify directory(-ies) for new binary and symbol search, use multiple times if necessary
-source-search-dir=<str>	Specify directory(-ies) for new source files search, use multiple times if necessary

5 Get a Report

-R, -report	Generate CLI report of type
affinity	Thread binding to sockets, cores
callstacks	CPU/wait time for callstacks
gprof-cc	CPU/wait time in gprof format
hotspots	Detailed view by grouping
hw-events	Hardware events
platform-power-analysis	CPU sleep/wake/frequency data
summary	Overall performance data
top-down	Call tree, CPU/wait time by func

Action Options:

-r, -result-dir=<str>	Select result to show report for
-group-by=<str>	Show report with specific grouping

See available groupings for report of type hotspots
`vtune -R hotspots -r r000hs -group-by=?`

-limit=<int>	Show limited number of items in output
-s, -sort-asc=<str>	Sort data in ascending order for this column
-S, -sort-desc=<str>	Sort data in descending order for this column

? Get More Help

vtune -help	Print CLI help
vtune -help <action>	Get help for action and all applicable action-options
vtune -help collect <analysis>	Get help for analysis type and all applicable knobs (analysis-specific modifiers)

Show description and knobs for threading analysis
`vtune -help collect threading`