



SPEC® OMPG2012 Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

HPE Superdome Flex 280
(Intel Xeon Platinum 8380HL, 2.9 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 79.2

OMP2012 license: l

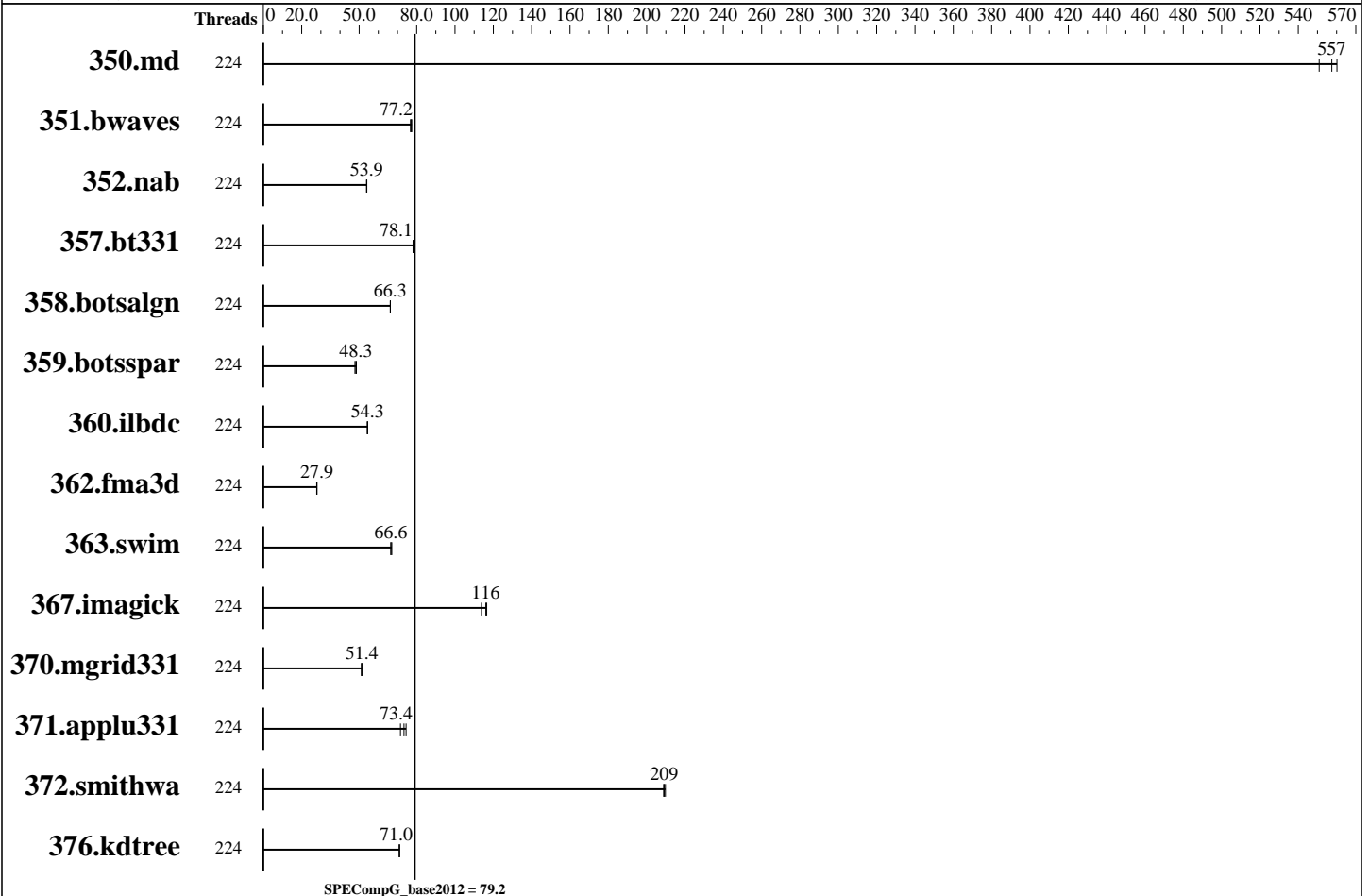
Test sponsor: HPE

Tested by: HPE

Test date: Apr-2021

Hardware Availability: Jan-2021

Software Availability: Feb-2021



Hardware

CPU Name: Intel Xeon Platinum 8380HL
 CPU Characteristics: Intel Turbo Boost Technology up to 4.30 GHz
 CPU MHz: 2900
 CPU MHz Maximum: 4300
 FPU: Integrated
 CPU(s) enabled: 224 cores, 8 chips, 28 cores/chip, 2 threads/core
 CPU(s) orderable: 2, 4, 8 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core
 L3 Cache: 38.5 MB I+D on chip per chip
 Other Cache: None
 Memory: 6 TB (48 x 128 GB 4Rx4 PC4-3200AA-L)
 Disk Subsystem: 3 TB tmpfs
 Other Hardware: None
 Base Threads Run: 224
 Minimum Peak Threads: --

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Software

Operating System: SUSE Linux Enterprise Server 15 SP2
 Kernel 5.3.18-24.52-default
 Compiler: C/C++/Fortran: Version 19.1.3.304 of Intel Compiler Build 20200925 for Linux
 Auto Parallel: No
 File System: tmpfs
 System State: Multi-user, run level 3
 Base Pointers: 64-bit
 Peak Pointers: Not Applicable
 Other Software: HPE Foundation Software 2.4.2
 (Build 737.1520.210121T0100.a.sles15sp2hpe-210121T0100)



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Maximum Peak Threads: --

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|--------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|---------|---------|-------|---------|-------|---------|-------|
| | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 350.md | 224 | 8.31 | 557 | 8.40 | 551 | 8.27 | 560 | | | | | | | |
| 351.bwaves | 224 | 58.7 | 77.2 | 59.0 | 76.7 | 58.5 | 77.4 | | | | | | | |
| 352.nab | 224 | 72.1 | 53.9 | 72.2 | 53.8 | 72.0 | 54.0 | | | | | | | |
| 357.bt331 | 224 | 60.7 | 78.1 | 60.7 | 78.1 | 60.5 | 78.3 | | | | | | | |
| 358.botsalgn | 224 | 65.7 | 66.3 | 65.7 | 66.3 | 65.6 | 66.3 | | | | | | | |
| 359.botsspar | 224 | 110 | 47.8 | 108 | 48.6 | 109 | 48.3 | | | | | | | |
| 360.ilbdc | 224 | 65.5 | 54.3 | 65.6 | 54.3 | 65.5 | 54.4 | | | | | | | |
| 362.fma3d | 224 | 137 | 27.8 | 136 | 28.0 | 136 | 27.9 | | | | | | | |
| 363.swim | 224 | 68.1 | 66.5 | 68.0 | 66.6 | 67.6 | 67.0 | | | | | | | |
| 367.imagick | 224 | 60.6 | 116 | 60.3 | 117 | 61.8 | 114 | | | | | | | |
| 370.mgrid331 | 224 | 86.3 | 51.2 | 86.0 | 51.4 | 86.0 | 51.4 | | | | | | | |
| 371.applu331 | 224 | 81.4 | 74.5 | 84.7 | 71.5 | 82.6 | 73.4 | | | | | | | |
| 372.smithwa | 224 | 25.6 | 210 | 25.7 | 209 | 25.6 | 209 | | | | | | | |
| 376.kdtree | 224 | 63.3 | 71.1 | 63.4 | 71.0 | 63.4 | 70.9 | | | | | | | |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Invocation Notes

```
COPTIMIZE=-O3 -xCORE-AVX512 -ipo1 -qopenmp -qopt-zmm-usage=high -ansi-alias -mcmmodel=medium -shared-intel
CXXOPTIMIZE=-O3 -xCORE-AVX512 -ipo1 -qopenmp -qopt-zmm-usage=high -ansi-alias -mcmmodel=medium -shared-intel
FOPTIMIZE=-O3 -xCORE-AVX512 -ipo1 -qopenmp -qopt-zmm-usage=high -mcmmodel=medium -shared-intel
```

Submit Notes

The config file option 'submit' was used.
 For all benchmarks threads were bound to cores using the following submit command:
`dplace -e -c 0-223 $command`
 This binds threads in order of creation, beginning with the master thread on logical cpu 0, the first slave thread on logical cpu 1, and so on.

Operating System Notes

Software Environment:
`export KMP_AFFINITY=disabled`
`export KMP_STACKSIZE=200M`
`export KMP_SCHEDULE=static,balanced`
`export OMP_DYNAMIC=FALSE`

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Operating System Notes (Continued)

```
ulimit -s unlimited
```

The tmpfs filesystem was set up with:

```
mount -t tmpfs -o rw,nosuid,nodev,mpol=interleave:0-7 /dev/shm
```

General Notes

System settings notes:

Workload Profile set to HPC
Workload Profile set to Custom
Power Regulator set to OS Control

Intel Turbo Boost Technology (Turbo): Enabled
Enhanced Processor Performance: Enabled

For all benchmarks core frequencies were set using the following command:
cpupower frequency-set -d 2901MHz -u 2901MHz -g performance

NA: The test sponsor attests, as of date of publication, the CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, the CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Spectre variant 2) is mitigated in the system as tested and documented.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Base Portability Flags

350.md: -free
367.imagick: -std=c99



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Base Optimization Flags

C benchmarks:

-O3 -xCORE-AVX512 -ipo1 -qopenmp -qopt-zmm-usage=high -ansi-alias
-mcmmodel=medium -shared-intel

C++ benchmarks:

-O3 -xCORE-AVX512 -ipo1 -qopenmp -qopt-zmm-usage=high -ansi-alias
-mcmmodel=medium -shared-intel

Fortran benchmarks:

-O3 -xCORE-AVX512 -ipo1 -qopenmp -qopt-zmm-usage=high
-mcmmodel=medium -shared-intel

The flags files that were used to format this result can be browsed at

<http://www.spec.org/omp2012/flags/HPE-OMP2012-ic18.html>

<http://www.spec.org/omp2012/flags/HPE-Platform-Flags-Intel-V1.3-CLX-revD.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/omp2012/flags/HPE-OMP2012-ic18.xml>

<http://www.spec.org/omp2012/flags/HPE-Platform-Flags-Intel-V1.3-CLX-revD.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC OMP2012 v1.1.

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