SPEC® OMPG2012 Result

Copyright 2012-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

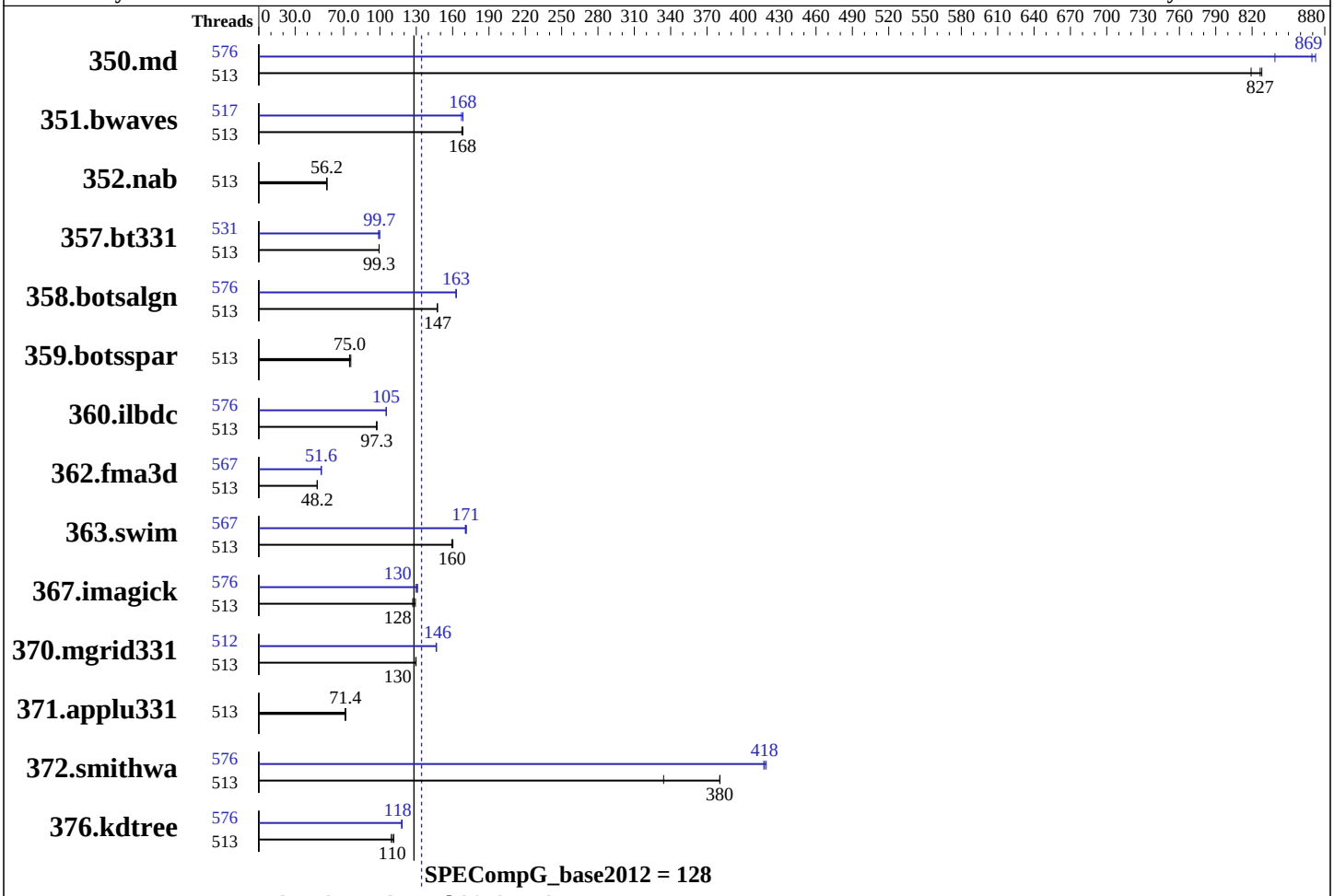
Superdome Flex (Intel Xeon Gold 6154, 3.00 GHz)

SPECompG_peak2012 = 134

SPECompG_base2012 = 128

OMP2012 license: 1
Test sponsor: HPE
Tested by: HPE

Test date: Dec-2017
Hardware Availability: Mar-2018
Software Availability: Mar-2018



Hardware

CPU Name:	Intel Xeon Gold 6154
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	3000
CPU MHz Maximum:	3700
FPU:	Integrated
CPU(s) enabled:	576 cores, 32 chips, 18 cores/chip
CPU(s) orderable:	4-32 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:	24.75 MB I+D on chip per chip
Other Cache:	None
Memory:	12 TB (384 x 32 GB 2Rx4 PC4-2666V-R)
Disk Subsystem:	tmpfs
Other Hardware:	None
Base Threads Run:	513
Minimum Peak Threads:	512

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 12 SP2 Kernel 4.4.74-92.38-default
Compiler:	C/C++/Fortran: Version 18.0.0.128 of Intel Composer XE for Linux, Build 20170811
Auto Parallel:	No
File System:	tmpfs
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	HPE Foundation Software 1.0, Build 717a270.sles12sp2-1709012000

SPEC OMPG2012 Result

Copyright 2012-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)

Superdome Flex (Intel Xeon Gold 6154, 3.00 GHz)

SPECompG_peak2012 = 134

SPECompG_base2012 = 128

OMP2012 license:1
Test sponsor: HPE
Tested by: HPE

Test date: Dec-2017
Hardware Availability: Mar-2018
Software Availability: Mar-2018

Maximum Peak Threads: 576

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	513	5.65	819	**5.60**	**827**	5.59	828	576	**5.33**	**869**	5.52	839	5.31	872
351.bwaves	513	26.9	168	**26.9**	**168**	27.0	168	517	27.1	167	**26.9**	**168**	26.9	169
352.nab	513	69.2	56.2	**69.2**	**56.2**	69.2	56.2	513	69.2	56.2	**69.2**	**56.2**	69.2	56.2
357.bt331	513	**47.7**	**99.3**	47.8	99.3	47.7	99.4	531	47.5	99.7	48.0	98.8	**47.6**	**99.7**
358.botsalgn	513	29.5	147	29.5	148	**29.5**	**147**	576	26.7	163	**26.7**	**163**	26.7	163
359.botsspar	513	69.1	76.0	**70.0**	**75.0**	70.1	74.9	513	69.1	76.0	**70.0**	**75.0**	70.1	74.9
360.ilbdc	513	**36.6**	**97.3**	36.5	97.5	36.6	97.3	576	33.9	105	33.8	105	**33.8**	**105**
362.fma3d	513	78.8	48.2	78.7	48.3	**78.8**	**48.2**	567	**73.7**	**51.6**	73.8	51.5	73.6	51.6
363.swim	513	**28.4**	**160**	28.4	159	28.3	160	567	26.6	170	26.4	171	**26.5**	**171**
367.imagick	513	54.4	129	55.3	127	**54.9**	**128**	576	54.1	130	**54.0**	**130**	53.6	131
370.mgrid331	513	34.0	130	**34.1**	**130**	34.1	130	512	30.1	147	30.2	146	**30.2**	**146**
371.applu331	513	84.4	71.8	85.1	71.2	**84.8**	**71.4**	513	84.4	71.8	85.1	71.2	**84.8**	**71.4**
372.smithwa	513	14.1	381	**14.1**	**380**	16.0	334	576	**12.8**	**418**	12.9	417	12.8	419
376.kdtree	513	**40.8**	**110**	40.4	111	41.1	109	576	38.2	118	**38.1**	**118**	38.0	118

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

Compiler Invocation Notes

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

```
Transparent Hugepages :
    Transparent Hugepages are disabled by
    echo never > /sys/kernel/mm/transparent_hugepage/enabled

Software Environment:
```

Continued on next page

Operating System Notes (Continued)

```
    export KMP_AFFINITY=disabled
    export KMP_STACKSIZE=200M
    export KMP_SCHEDULE=static,balanced
    export OMP_DYNAMIC=FALSE
    ulimit -s unlimited

The tmpfs filesystem was set up with:
    mount -t tmpfs -o rw,remount,mode=1777,mpol=interleave tmpfs /dev/shm
```

Platform Notes

```
Rack Management Controller settings:
   modify npar pnum=0 ras=hpc
   modify npar pnum=0 hthread=off
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
-O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -ansi-alias
-mcmodel=medium -shared-intel

C++ benchmarks:
-O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -ansi-alias
-mcmodel=medium -shared-intel

Fortran benchmarks:
-O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp
-mcmodel=medium -shared-intel

Peak Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

352.nab: basepeak = yes

358.botsalgn: -O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -ansi-alias -mcmodel=medium -shared-intel

359.botsspar: basepeak = yes

367.imagick: Same as 358.botsalgn

372.smithwa: Same as 358.botsalgn

C++ benchmarks:
-O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -ansi-alias -mcmodel=medium -shared-intel

Fortran benchmarks:

350.md: -O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -mcmodel=medium -shared-intel

351.bwaves: Same as 350.md

357.bt331: Same as 350.md

360.ilbdc: Same as 350.md

362.fma3d: Same as 350.md

Continued on next page

Peak Optimization Flags (Continued)

363.swim: `Same as 350.md`

370.mgrid331: `Same as 350.md`

371.applu331: `basepeak = yes`

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-Superdome_Flex-RevA.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-Superdome_Flex-RevA.xml`

SPEC is a registered trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC OMP2012 v25.
Report generated on Wed Jan 3 13:04:58 2018 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 3 January 2018.