SPEC® OMPG2012 Result

Copyright 2012-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

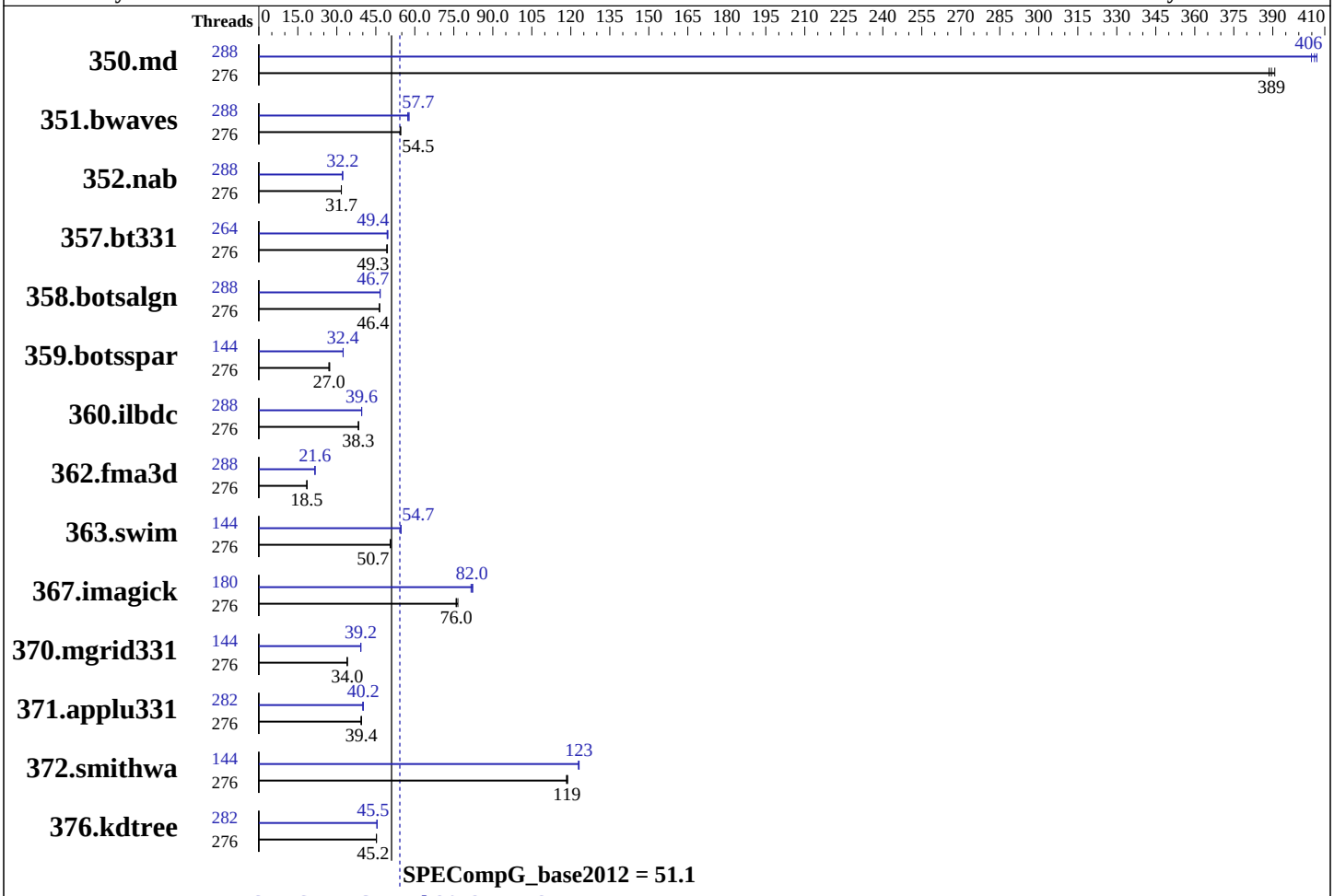
Superdome Flex (Intel Xeon Gold 6154, 3.00 GHz)

SPECompG_peak2012 = 54.2

SPECompG_base2012 = 51.1

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

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



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:	144 cores, 8 chips, 18 cores/chip, 2 threads/core
CPU(s) orderable:	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:	24.75 MB I+D on chip per chip
Other Cache:	None
Memory:	3 TB (96 x 32 GB 2Rx4 PC4-2666V-R)
Disk Subsystem:	tmpfs
Other Hardware:	None
Base Threads Run:	276
Minimum Peak Threads:	144

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 = 54.2

SPECompG_base2012 = 51.1

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

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

Maximum Peak Threads: 288

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	276	**11.9**	**389**	11.9	389	11.8	391	288	11.4	405	11.4	407	**11.4**	**406**
351.bwaves	276	**83.1**	**54.5**	83.4	54.3	83.0	54.6	288	79.1	57.3	78.4	57.8	**78.5**	**57.7**
352.nab	276	**123**	**31.7**	123	31.7	122	31.8	288	**121**	**32.2**	121	32.2	121	32.2
357.bt331	276	95.8	49.5	96.3	49.2	**96.1**	**49.3**	264	95.4	49.7	96.0	49.4	**95.9**	**49.4**
358.botsalgn	276	93.8	46.4	**93.7**	**46.4**	93.7	46.4	288	93.3	46.6	93.2	46.7	**93.2**	**46.7**
359.botsspar	276	192	27.3	194	27.0	**194**	**27.0**	144	**162**	**32.4**	162	32.5	162	32.4
360.ilbdc	276	92.7	38.4	93.0	38.3	**92.9**	**38.3**	288	90.0	39.5	**90.0**	**39.6**	89.9	39.6
362.fma3d	276	206	18.5	**205**	**18.5**	205	18.5	288	176	21.6	**176**	**21.6**	176	21.6
363.swim	276	**89.4**	**50.7**	89.4	50.7	89.7	50.5	144	**82.9**	**54.7**	82.8	54.7	83.0	54.6
367.imagick	276	92.6	75.9	**92.5**	**76.0**	91.8	76.6	180	85.4	82.3	**85.7**	**82.0**	86.1	81.6
370.mgrid331	276	130	34.0	130	34.0	**130**	**34.0**	144	**113**	**39.2**	113	39.2	113	39.2
371.applu331	276	154	39.3	153	39.5	**154**	**39.4**	282	151	40.2	152	40.0	**151**	**40.2**
372.smithwa	276	45.1	119	**45.2**	**119**	45.3	118	144	**43.5**	**123**	43.5	123	43.6	123
376.kdtree	276	**99.5**	**45.2**	99.4	45.3	99.5	45.2	282	**99.0**	**45.5**	98.9	45.5	99.0	45.4

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 setting:
   modify npar pnum=0 ras=hpc
```

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:
-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

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

Copyright 2012-2018 Standard Performance Evaluation Corporation

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 v1.1.
Report generated on Wed Jan 3 13:04:47 2018 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 3 January 2018.