Hewlett Packard Enterprise
(Test Sponsor: HPE)

Superdome Flex (Intel Xeon Gold 6154, 3.00 GHz)

**SPECompG_peak2012 = 90.9**

**SPECompG_base2012 = 85.2**

<table>
<thead>
<tr>
<th>Threads</th>
<th>Spec Component</th>
<th>SPECompG_peak2012</th>
<th>SPECompG_base2012</th>
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<td>576</td>
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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:** 288 cores, 16 chips, 18 cores/chip, 2 threads/core
- **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:** 6 TB (192 x 32 GB 2Rx4 PC4-2666V-R)
- **Disk Subsystem:** tmpfs
- **Other Hardware:** None
- **Base Threads Run:** 513
- **Minimum Peak Threads:** 256

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
Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
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SPECompG_peak2012 = 90.9  
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OMP2012 license:  
Test sponsor:  
HPE  
Tested by:  
HPE  

Maximum Peak Threads:  576

Results Table  

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</table>

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

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
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:
-03 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -ansi-alias
-mcmodel=medium -shared-intel

C++ benchmarks:
-03 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -ansi-alias
-mcmodel=medium -shared-intel

Fortran benchmarks:
-03 -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

<table>
<thead>
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<th>Flags</th>
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<tr>
<td>350.md</td>
<td><code>-free</code></td>
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<tr>
<td>367.imagick</td>
<td><code>-std=c99</code></td>
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## Peak Optimization Flags

### C benchmarks:

- `352.nab`: `-O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -ansi-alias -mcmode=medium -shared-intel`
- `358.botsalign`: `basepeak = yes`
- `359.botsspar`: `Same as 352.nab`
- `367.imagick`: `Same as 352.nab`
- `372.smithwa`: `Same as 352.nab`

### C++ benchmarks:

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

### Fortran benchmarks:

- `350.md`: `-O3 -qopt-zmm-usage=high -xCORE-AVX512 -ipo1 -qopenmp -mcmode=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`
SPEC OMPG2012 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Superdome Flex (Intel Xeon Gold 6154, 3.00 GHz)

SPECompG_peak2012 = 90.9
SPECompG_base2012 = 85.2

OMP2012 license: 1
Test sponsor: HPE
Tested by: HPE
Test date: Dec-2017
Hardware Availability: Mar-2018
Software Availability: Mar-2018

Peak Optimization Flags (Continued)

363.swim: Same as 350.md
370.mgrid33i: Same as 350.md
371.applu33i: basepeak = yes

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

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For other inquiries, please contact webmaster@spec.org.

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