SPEC® OMPG2012 Result

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Bull

(Test Sponsor: Technische Universitaet Dresden)

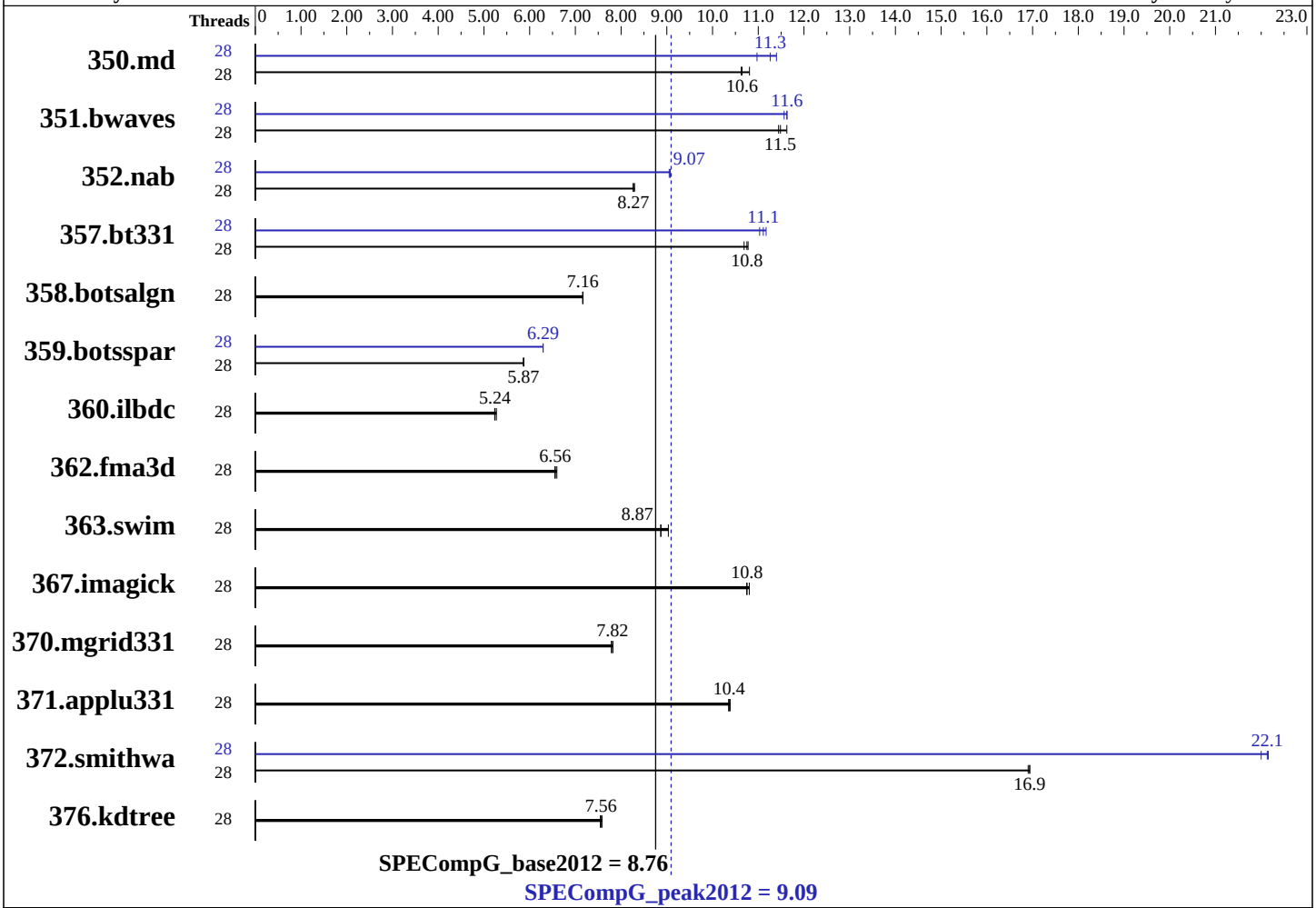
bullx DLC B720 (Intel Xeon E5-2680 v4 @ 2.40 GHz)

SPECompG_peak2012 = 9.09

SPECompG_base2012 = 8.76

OMP2012 license: 37A
Test sponsor: Technische Universitaet Dresden
Tested by: Technische Universitaet Dresden

Test date: Sep-2017
Hardware Availability: Jan-2016
Software Availability: May-2017



Hardware

CPU Name:	Intel Xeon E5-2680 v4
CPU Characteristics:	Intel Turbo Boost Technology up to 3.3 GHz
CPU MHz:	2400
CPU MHz Maximum:	3300
FPU:	Integrated
CPU(s) enabled:	28 cores, 2 chips, 14 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	35 MB I+D on chip per chip
Other Cache:	None
Memory:	64 GB (8 x 8 GB 2Rx8 PC4-2400T-R)
Disk Subsystem:	256 GB Micron SSD 1100
Other Hardware:	None
Base Threads Run:	28
Minimum Peak Threads:	28

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Software

Operating System:	Red Hat Enterprise Linux Server release 6.9 (Santiago) Kernel 2.6.32-696.3.1.el6.Bull.118.x86_64
Compiler:	C/C++/Fortran: Version 17.0.4.196 of Intel Composer Build 20170411
Auto Parallel:	No
File System:	ext3
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	None

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Maximum Peak Threads: 28

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	28	436	10.6	**435**	**10.6**	428	10.8	28	406	11.4	422	11.0	**411**	**11.3**
351.bwaves	28	**394**	**11.5**	396	11.4	390	11.6	28	390	11.6	**390**	**11.6**	392	11.6
352.nab	28	471	8.26	**470**	**8.27**	469	8.30	28	429	9.08	430	9.05	**429**	**9.07**
357.bt331	28	440	10.8	443	10.7	**441**	**10.8**	28	424	11.2	**427**	**11.1**	430	11.0
358.botsalgn	28	607	7.16	**607**	**7.16**	607	7.16	28	607	7.16	**607**	**7.16**	607	7.16
359.botsspar	28	894	5.87	895	5.87	**895**	**5.87**	28	**834**	**6.29**	834	6.30	834	6.29
360.ilbdc	28	675	5.27	**679**	**5.24**	680	5.24	28	675	5.27	**679**	**5.24**	680	5.24
362.fma3d	28	576	6.60	580	6.55	**579**	**6.56**	28	576	6.60	580	6.55	**579**	**6.56**
363.swim	28	511	8.87	**511**	**8.87**	501	9.03	28	511	8.87	**511**	**8.87**	501	9.03
367.imagick	28	**654**	**10.8**	651	10.8	654	10.7	28	**654**	**10.8**	651	10.8	654	10.7
370.mgrid331	28	565	7.82	568	7.78	**566**	**7.82**	28	565	7.82	568	7.78	**566**	**7.82**
371.applu331	28	585	10.4	583	10.4	**585**	**10.4**	28	585	10.4	583	10.4	**585**	**10.4**
372.smithwa	28	317	16.9	**317**	**16.9**	316	16.9	28	242	22.2	244	22.0	**242**	**22.1**
376.kdtree	28	593	7.58	**595**	**7.56**	596	7.54	28	593	7.58	**595**	**7.56**	596	7.54

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

Platform Notes

```
Sysinfo program /tmp/spec/1.1/Docs/sysinfo
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)
running on taurusi4264 Tue Sep  5 11:27:41 2017

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/omp2012/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2680 v4 @ 2.40GHz
      2 "physical id"s (chips)
      28 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 14
      siblings  : 14
      physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
      physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
   cache size : 35840 KB

From /proc/meminfo
   MemTotal:       65588120 kB
```

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Platform Notes (Continued)

```
      HugePages_Total:       0
      Hugepagesize:       2048 kB

   /usr/bin/lsb_release -d
      Red Hat Enterprise Linux Server release 6.9 (Santiago)

   From /etc/*release* /etc/*version*
      redhat-release: Red Hat Enterprise Linux Server release 6.9 (Santiago)
      system-release: Red Hat Enterprise Linux Server release 6.9 (Santiago)
      system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

   uname -a:
      Linux taurusi4264 2.6.32-696.3.1.el6.Bull.118.x86_64 #1 SMP Thu Jun 15
      17:05:40 CEST 2017 x86_64 x86_64 x86_64 GNU/Linux

   run-level 3 Aug 1 18:29

   SPEC is set to: /tmp/spec/1.1
      Filesystem     Type  Size  Used Avail Use% Mounted on
      /dev/sda4      ext4   99G  1.7G   92G   2% /tmp

   Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

   (End of data from sysinfo program)
```

General Notes

```
System settings:
 HyperThreading: disabled
Environment variables:
 ENV_KMP_AFFINITY=compact,0
 ENV_KMP_LIBRARY=turnaround
 ENV_KMP_BLOCKTIME=infinite
 ENV_KMP_STACKSIZE=190M
 ENV_OMP_DYNAMIC=FALSE
 ENV_OMP_NESTED=FALSE
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Base Portability Flags

350.md: `-FR`
357.bt331: `-mcmodel=medium`
363.swim: `-mcmodel=medium`
367.imagick: `-std=c99`

Base Optimization Flags

C benchmarks:
`-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias`

C++ benchmarks:
`-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias`

Fortran benchmarks:
`-O2 -openmp -ipo -xCORE-AVX2 -align array64byte`

Peak Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Fortran benchmarks:
`ifort`

Peak Portability Flags

350.md: `-FR`
357.bt331: `-mcmodel=medium`
363.swim: `-mcmodel=medium`
367.imagick: `-std=c99`

Peak Optimization Flags

C benchmarks:

352.nab: `-O3 -openmp -ipo -xCORE-AVX2 -fno-alias -opt-malloc-options=1 -opt-calloc -fp-model fast=2 -no-prec-div -no-prec-sqrt -ansi-alias`

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Peak Optimization Flags (Continued)

358.botsalgn: `basepeak = yes`

359.botsspar: `-O3 -openmp -ipo -xCORE-AVX2 -fno-alias -ansi-alias`

367.imagick: `basepeak = yes`

372.smithwa: `-O2 -openmp -ipo -xCORE-AVX2 -fno-alias -opt-streaming-stores always -opt-malloc-options=1 -ansi-alias`

C++ benchmarks:

376.kdtree: `basepeak = yes`

Fortran benchmarks:

350.md: `-O2 -openmp -ipo -xCORE-AVX2 -fno-alias -opt-malloc-options=1 -fp-model fast=2 -no-prec-div -no-prec-sqrt -align array64byte`

351.bwaves: `-O3 -openmp -ipo -xCORE-AVX2 -fno-alias -fp-model fast=2 -no-prec-div -no-prec-sqrt -align array64byte`

357.bt331: `Same as 351.bwaves`

360.ilbdc: `basepeak = yes`

362.fma3d: `basepeak = yes`

363.swim: `basepeak = yes`

370.mgrid331: `basepeak = yes`

371.applu331: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/omp2012/flags/icc2018-openmp.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/omp2012/flags/icc2018-openmp.xml`

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

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