SPEC® OMPG2012 Result

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Supermicro
(Test Sponsor: The Portland Group)

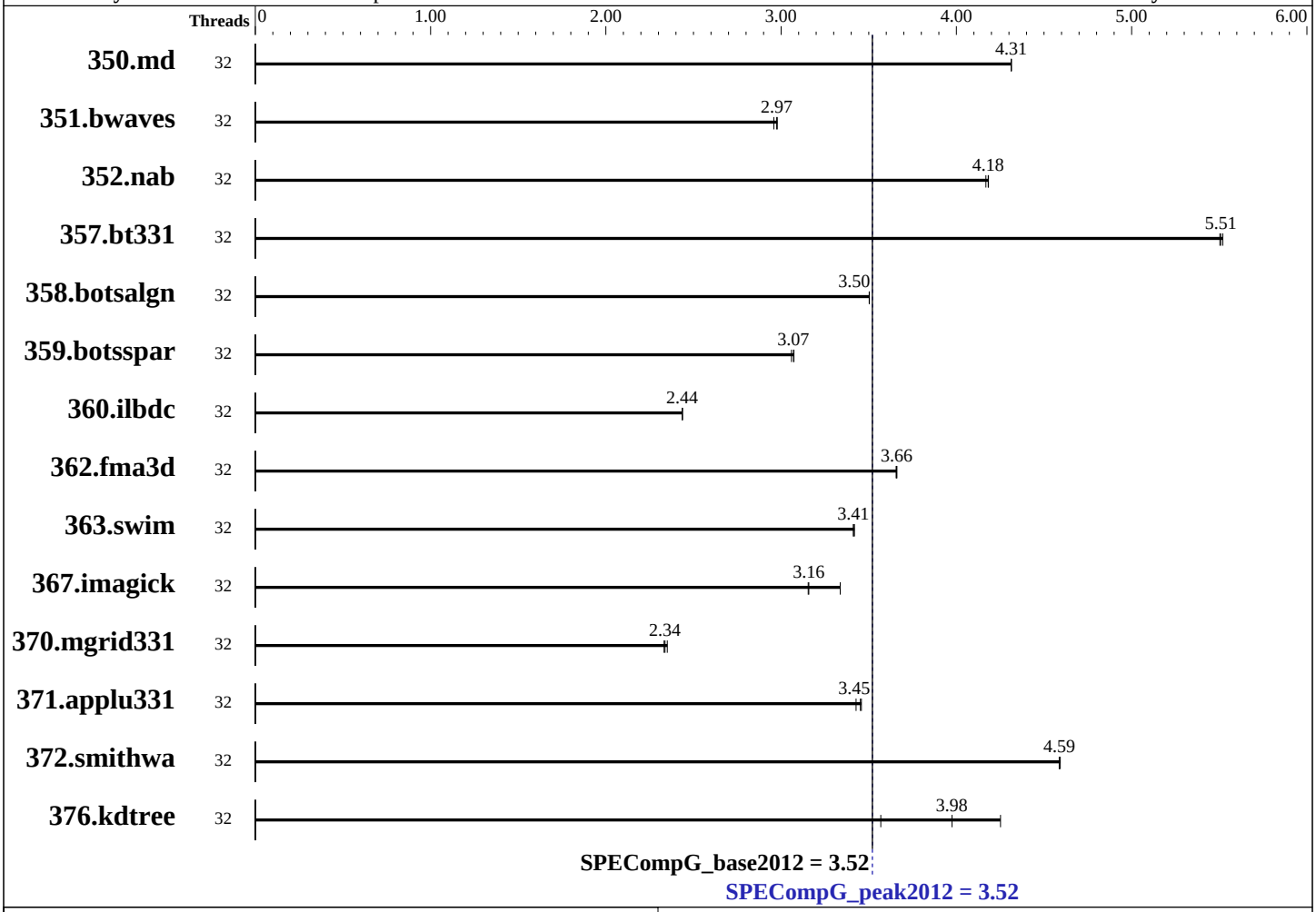
A+ Server 2022G-URF

SPECompG_peak2012 = 3.52

SPECompG_base2012 = 3.52

OMP2012 license:019
Test sponsor: The Portland Group
Tested by: The Portland Group

Test date: Jan-2013
Hardware Availability: Sep-2012
Software Availability: Jan-2013



Hardware

CPU Name:	AMD Opteron 6386 SE
CPU Characteristics:	AMD Turbo CORE technology up to 3.50 GHz
CPU MHz:	2800
CPU MHz Maximum:	3500
FPU:	Integrated
CPU(s) enabled:	32 cores, 2 chips, 16 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	512 KB I on chip per chip, 64 KB I shared / 2 cores; 16 KB D on chip per core
Secondary Cache:	16 MB I+D on chip per chip, 2 MB shared / 2 cores
L3 Cache:	16 MB I+D on chip per chip, 8 MB shared / 8 cores
Other Cache:	None
Memory:	64 GB (8 x 8GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem:	10 x 144GB, RAID, 10000 RPM
Other Hardware:	None

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Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++/Fortran: Version 13.1 of PGI Server Complete
Auto Parallel:	No
File System:	nfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	None

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Base Threads Run: 32
Minimum Peak Threads: 32
Maximum Peak Threads: 32

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	32	1074	4.31	**1073**	**4.31**	1073	4.31	32	1074	4.31	**1073**	**4.31**	1073	4.31
351.bwaves	32	**1523**	**2.97**	1531	2.96	1521	2.98	32	**1523**	**2.97**	1531	2.96	1521	2.98
352.nab	32	933	4.17	**930**	**4.18**	930	4.18	32	933	4.17	**930**	**4.18**	930	4.18
357.bt331	32	859	5.52	861	5.50	**860**	**5.51**	32	859	5.52	861	5.50	**860**	**5.51**
358.botsalgn	32	1242	3.50	**1242**	**3.50**	1242	3.50	32	1242	3.50	**1242**	**3.50**	1242	3.50
359.botsspar	32	**1710**	**3.07**	1716	3.06	1708	3.07	32	**1710**	**3.07**	1716	3.06	1708	3.07
360.ilbdc	32	1461	2.44	**1461**	**2.44**	1461	2.44	32	1461	2.44	**1461**	**2.44**	1461	2.44
362.fma3d	32	**1038**	**3.66**	1038	3.66	1039	3.66	32	**1038**	**3.66**	1038	3.66	1039	3.66
363.swim	32	1325	3.42	**1327**	**3.41**	1327	3.41	32	1325	3.42	**1327**	**3.41**	1327	3.41
367.imagick	32	2107	3.34	2229	3.15	**2226**	**3.16**	32	2107	3.34	2229	3.15	**2226**	**3.16**
370.mgrid331	32	1895	2.33	1880	2.35	**1891**	**2.34**	32	1895	2.33	1880	2.35	**1891**	**2.34**
371.applu331	32	**1755**	**3.45**	1752	3.46	1768	3.43	32	**1755**	**3.45**	1752	3.46	1768	3.43
372.smithwa	32	**1168**	**4.59**	1167	4.59	1169	4.59	32	**1168**	**4.59**	1167	4.59	1169	4.59
376.kdtree	32	**1132**	**3.98**	1261	3.57	1058	4.25	32	**1132**	**3.98**	1261	3.57	1058	4.25

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

Platform Notes

```
Sysinfo program /scratch/cparrott/OMP2012_v1.0/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on piledriver Tue Jan 29 16:28:23 2013

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 : AMD Opteron(tm) Processor 6386 SE
      2 "physical id"s (chips)
      32 "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 : 8
      siblings  : 16
      physical 0: cores 0 1 2 3 4 5 6 7
      physical 1: cores 0 1 2 3 4 5 6 7
   cache size : 2048 KB
```

Continued on next page

Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:       66087492 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux piledriver 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 9 14:31

SPEC is set to: /scratch/cparrott/OMP2012_v1.0
   Filesystem     Type    Size  Used Avail Use% Mounted on
   filer01.pgi.net:/vol/vol1/scratch
                  nfs     727G  129G  598G  18% /proj/scratch

Additional information from dmidecode:

(End of data from sysinfo program)
```

General Notes

```
   Software Environment:
       export MP_BIND=yes
       ulimit -s unlimited
```

Base Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgCC

Fortran benchmarks:
pgfortran

Base Portability Flags

350.md: `-Mfree`
351.bwaves: `-mcmodel=medium`
357.bt331: `-mcmodel=medium`
363.swim: `-mcmodel=medium`

Base Optimization Flags

C benchmarks:
`-mp -fast -Mipa=fast -Mipa=inline -Msmartalloc=huge -Mfprelaxed`

C++ benchmarks:
`-mp -fast -Mipa=fast -Mipa=inline -Msmartalloc=huge -Mfprelaxed`

Fortran benchmarks:
`-mp -fast -Mipa=fast -Mipa=inline -Msmartalloc=huge -Mfprelaxed`

Peak Optimization Flags

C benchmarks:

352.nab: `basepeak = yes`
358.botsalgn: `basepeak = yes`
359.botsspar: `basepeak = yes`
367.imagick: `basepeak = yes`
372.smithwa: `basepeak = yes`

C++ benchmarks:

376.kdtree: `basepeak = yes`

Fortran benchmarks:

350.md: `basepeak = yes`
351.bwaves: `basepeak = yes`
357.bt331: `basepeak = yes`
360.ilbdc: `basepeak = yes`
362.fma3d: `basepeak = yes`

Continued on next page

Peak Optimization Flags (Continued)

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/pgi2013_linux_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/omp2012/flags/pgi2013_linux_flags.xml`

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

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