SPEC® OMPG2012 Result

Supermicro
(Test Sponsor: The Portland Group)

A+ Server 2022G-URF

$SPECompG\_peak2012 =$ Not Run

$SPECompG\_base2012 =$ 4.24

Benchmark	Threads	Score
350.md	32	4.36
351.bwaves	32	5.34
352.nab	32	4.19
357.bt331	32	6.59
358.botsalgn	32	3.50
359.botsspar	32	3.17
360.ilbdc	32	4.21
362.fma3d	32	3.66
363.swim	32	4.27
367.imagick	32	3.32
370.mgrid331	32	3.64
371.applu331	32	4.56
372.smithwa	32	4.63
376.kdtree	32	5.08

SPECompG_base2012 = 4.24

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:	64538 MB (8 x 8 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem:	10 x 144GB, RAID, 10000 RPM
Other Hardware:	None
Base Threads Run:	32

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) Linux kernel 2.6.32-220.el6.x86_64
Compiler:	C/C++/Fortran: Version 13.2 of PGI Server Complete
Auto Parallel:	No
File System:	nfs
System State:	Run level 3 (Multi-user)
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	None

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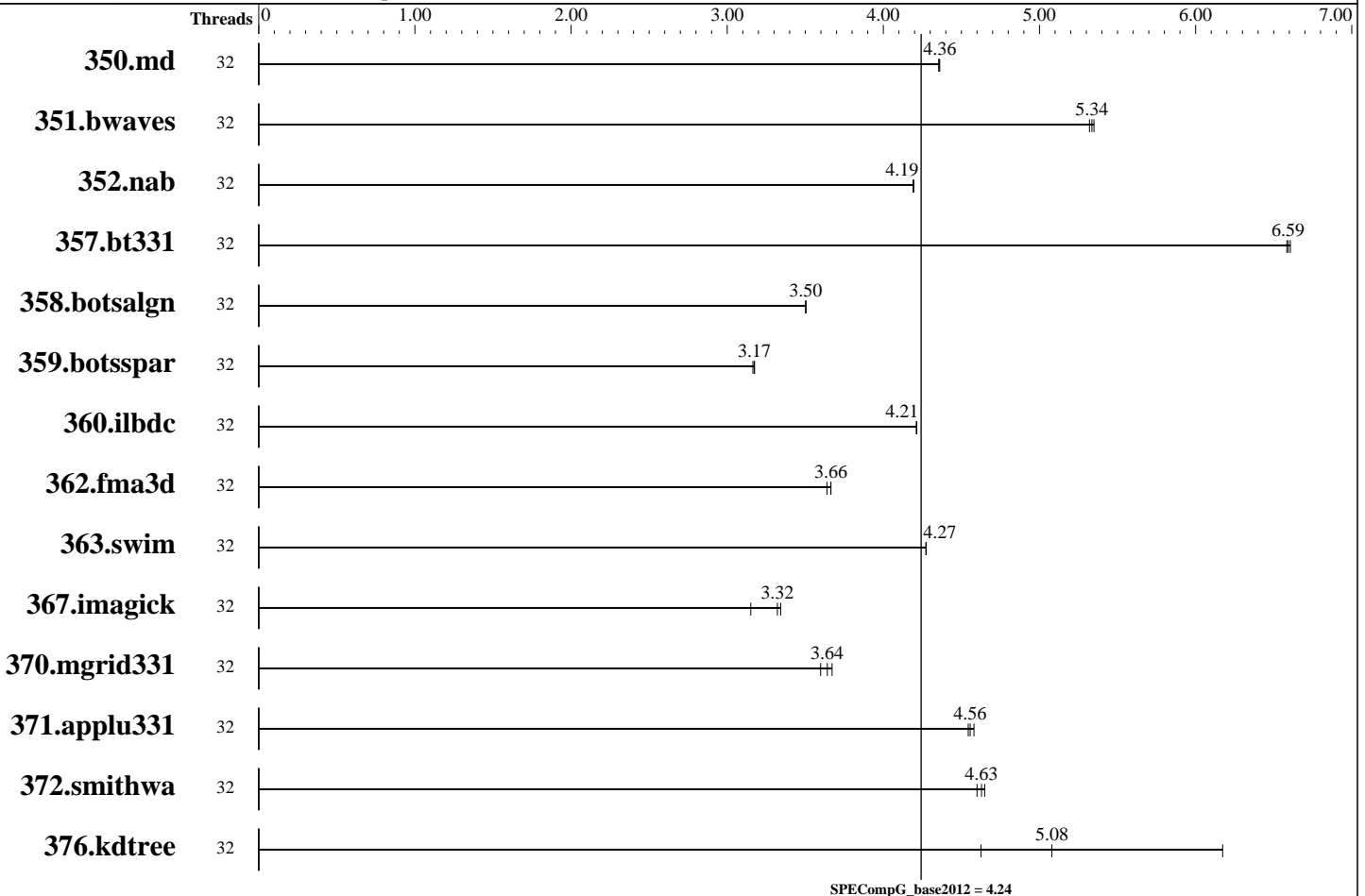
OMP2012 license:019
Test sponsor: The Portland Group
Tested by: The Portland Group

Test date: Mar-2013
Hardware Availability: Sep-2012
Software Availability: Feb-2013

Minimum Peak Threads: --
Maximum Peak Threads: --

Results Table

Benchmark	Threads	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	32	1062	4.36	1063	4.36	**1063**	**4.36**							
351.bwaves	32	**849**	**5.34**	847	5.35	851	5.32							
352.nab	32	**928**	**4.19**	927	4.19	928	4.19							
357.bt331	32	720	6.58	717	6.61	**719**	**6.59**							
358.botsalgn	32	1242	3.50	1241	3.50	**1242**	**3.50**							
359.botsspar	32	1654	3.18	1659	3.16	**1654**	**3.17**							
360.ilbdc	32	**845**	**4.21**	845	4.21	845	4.21							
362.fma3d	32	**1037**	**3.66**	1044	3.64	1037	3.66							
363.swim	32	**1060**	**4.27**	1060	4.28	1060	4.27							
367.imagick	32	**2117**	**3.32**	2231	3.15	2103	3.34							
370.mgrid331	32	1228	3.60	**1214**	**3.64**	1204	3.67							
371.applu331	32	**1330**	**4.56**	1334	4.54	1323	4.58							
372.smithwa	32	1165	4.60	**1158**	**4.63**	1153	4.65							
376.kdtree	32	**886**	**5.08**	729	6.17	973	4.63							

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 Sun Mar  3 00:42:57 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

   From /proc/meminfo
```

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Platform Notes (Continued)

```
    MemTotal:        66087508 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 Mar 1 15:09

 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  136G  591G  19% /proj/scratch

 Additional information from dmidecode:

 (End of data from sysinfo program)
```

General Notes

```
    Software Environment:
        export MP_BIND=yes
        export MP_SPIN=1
        ulimit -s unlimited

    BIOS Settings:
        AMI BIOS 08/31/2012
        Performance defaults loaded
Definition of environment variables:
MP_BIND
You can set MP_BIND to yes or y to bind processes or threads executing in a
parallel region to physical processor. Set it to no or n to disable such
binding. The default is to not bind processes to processors. This variable
is an execution-time environment variable interpreted by the PGI runtime
support libraries. It does not affect the behavior of the PGI compilers
in any way.
MP_SPIN
When a thread executing in a parallel region enters a barrier, it spins on a
semaphore. You can use MP_SPIN to specify the number of times it checks the
semaphore before calling sched_yield() (on Linux or MAC OS X) or _sleep()
(on Windows). These calls cause the thread to be re-scheduled, allowing
```

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General Notes (Continued)

other processes to run. The default value is 1000000.

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

The flags file that was used to format this result can be browsed at
http://www.spec.org/omp2012/flags/pgi2013_linux_flags.20130403.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/omp2012/flags/pgi2013_linux_flags.20130403.xml

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

Tested with SPEC OMP2012 v1.0.
Report generated on Tue Jul 22 13:36:45 2014 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 3 April 2013.