SPEC® CFP2006 Result

SGI

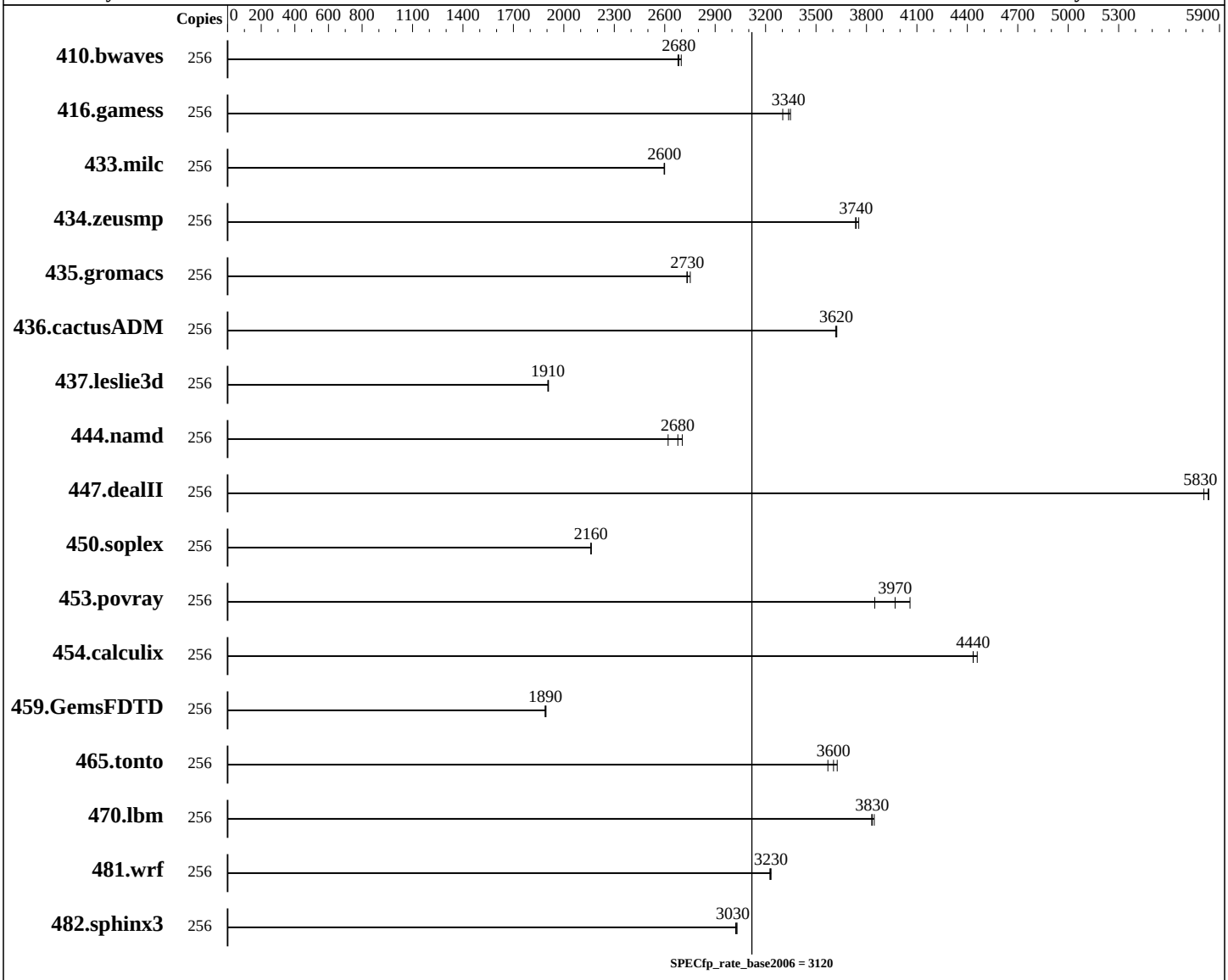
SGI UV 2000 (Intel Xeon E5-4640, 2.4 GHz)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 3120

CPU2006 license: 4
Test sponsor: SGI
Tested by: SGI

Test date: Aug-2012
Hardware Availability: Jun-2012
Software Availability: Jul-2012



Hardware

CPU Name:	Intel Xeon E5-4640
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	128 cores, 16 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	4-256 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) SP2, Kernel 3.0.31-0.9.1.4402.0.PTF-default
Compiler:	C/C++: Version 12.1.3.293 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.3.293 of Intel Fortran Studio XE for Linux
Auto Parallel:	No
File System:	tmpfs
System State:	Run Level 3 (multi-user)

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L3 Cache:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	1 TB (64 x 16 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	8 TB tmpfs
Other Hardware:	NUMAlink6 routers

Base Pointers:	32/64-bit
Peak Pointers:	Not Applicable
Other Software:	SGI Accelerate 1.4 Patch 10916 SGI Foundation Software 2.6, Build 706rp6.sles11sp2-1208152008

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	256	1289	2700	**1296**	**2680**	1299	2680							
416.gamess	256	1497	3350	1518	3300	**1502**	**3340**							
433.milc	256	904	2600	905	2600	**905**	**2600**							
434.zeusmp	256	621	3750	**623**	**3740**	624	3730							
435.gromacs	256	664	2750	**668**	**2730**	669	2730							
436.cactusADM	256	846	3620	**845**	**3620**	844	3620							
437.leslie3d	256	1261	1910	**1262**	**1910**	1263	1910							
444.namd	256	759	2700	**767**	**2680**	784	2620							
447.dealII	256	502	5840	504	5810	**502**	**5830**							
450.soplex	256	**988**	**2160**	988	2160	987	2160							
453.povray	256	354	3850	**343**	**3970**	336	4060							
454.calculix	256	**476**	**4440**	476	4430	474	4460							
459.GemsFDTD	256	1438	1890	1434	1890	**1436**	**1890**							
465.tonto	256	**699**	**3600**	695	3630	705	3570							
470.lbm	256	915	3850	**917**	**3830**	918	3830							
481.wrf	256	886	3230	885	3230	**886**	**3230**							
482.sphinx3	256	1651	3020	1647	3030	**1648**	**3030**							

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

Submit Notes

```
The dplace mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate dplace commands to bind each copy to a specific processor.
For details, please see the config file.
```

Operating System Notes

```
Tmpfs filesystem set up with:
  mount -t tmpfs -o size=8192g,rw tmpfs /mnt/shm/
Stack size set to unlimited using "ulimit -s unlimited"
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/mnt/shm/cpu2006-1.2/libs/32:/mnt/shm/cpu2006-1.2/libs/64"

 Binaries compiled on a system with 2x Xeon E5540 CPU + 32GB
 memory using SLES11 SP1
 Transparent Huge Pages disabled with:
 echo never  > /sys/kernel/mm/transparent_hugepage/enabled
 Filesystem page cache cleared with:
 echo 1 > /proc/sys/vm/drop_caches
```

Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Base Portability Flags

```
    410.bwaves: -DSPEC_CPU_LP64
    416.gamess: -DSPEC_CPU_LP64
      433.milc: -DSPEC_CPU_LP64
    434.zeusmp: -DSPEC_CPU_LP64
    435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
    437.leslie3d: -DSPEC_CPU_LP64
     444.namd: -DSPEC_CPU_LP64
    447.dealII: -DSPEC_CPU_LP64
    450.soplex: -DSPEC_CPU_LP64
    453.povray: -DSPEC_CPU_LP64
    454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
      465.tonto: -DSPEC_CPU_LP64
      470.lbm: -DSPEC_CPU_LP64
      481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
  482.sphinx3: -DSPEC_CPU_LP64
```

Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120912.html
http://www.spec.org/cpu2006/flags/SGI-platform.20120912.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120912.xml
http://www.spec.org/cpu2006/flags/SGI-platform.20120912.xml

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

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