



SPEC[®] CFP2006 Result

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SGI

SPECfp[®]_rate2006 = Not Run

SGI UV 2000 (Intel Xeon E5-4650, 2.7 GHz)

SPECfp_rate_base2006 = 25800

CPU2006 license: 4

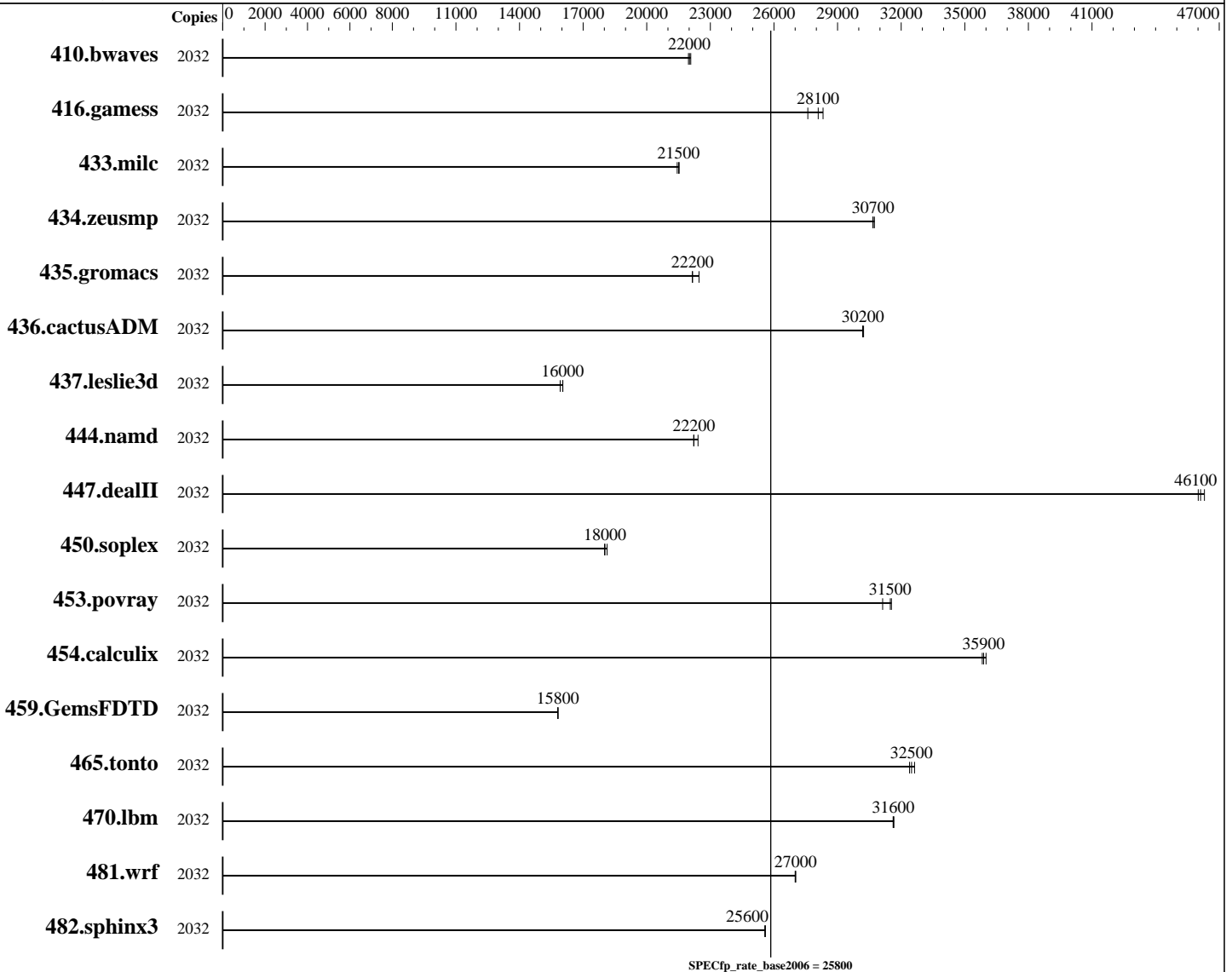
Test sponsor: SGI

Tested by: SGI

Test date: Sep-2012

Hardware Availability: Jun-2012

Software Availability: Jul-2012



Hardware

CPU Name: Intel Xeon E5-4650
 CPU Characteristics: Intel Turbo Boost Technology disabled
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 1024 cores, 128 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 3.0.38-0.5-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: 8 TB (1024 x 8 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 10920
SGI Foundation Software 2.6, Patch 10931

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2032	1251	22100	<u>1254</u>	<u>22000</u>	1257	22000							
416.gamess	2032	1405	28300	<u>1417</u>	<u>28100</u>	1442	27600							
433.milc	2032	<u>867</u>	<u>21500</u>	866	21500	870	21400							
434.zeusmp	2032	602	30700	<u>603</u>	<u>30700</u>	603	30700							
435.gromacs	2032	646	22500	655	22200	<u>655</u>	<u>22200</u>							
436.cactusADM	2032	804	30200	803	30200	<u>804</u>	<u>30200</u>							
437.leslie3d	2032	1191	16000	1200	15900	<u>1191</u>	<u>16000</u>							
444.namd	2032	727	22400	734	22200	<u>733</u>	<u>22200</u>							
447.dealII	2032	<u>504</u>	<u>46100</u>	505	46000	502	46300							
450.soplex	2032	935	18100	941	18000	<u>940</u>	<u>18000</u>							
453.povray	2032	347	31100	<u>343</u>	<u>31500</u>	343	31500							
454.calculix	2032	468	35800	<u>467</u>	<u>35900</u>	466	36000							
459.GemsFDTD	2032	1363	15800	1364	15800	<u>1363</u>	<u>15800</u>							
465.tonto	2032	617	32400	<u>615</u>	<u>32500</u>	613	32600							
470.lbm	2032	882	31700	<u>883</u>	<u>31600</u>	883	31600							
481.wrf	2032	<u>840</u>	<u>27000</u>	841	27000	840	27000							
482.sphinx3	2032	<u>1548</u>	<u>25600</u>	1547	25600	1549	25600							

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. Benchmark copies were launched in a staggered fashion to minimize kernel contention associated with synchronized launches. 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"
sysctl vm.stat_interval=10



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Platform Notes

SGI BIOS version 3.0.7

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

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Base Portability Flags (Continued)

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.20121009.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.20121009.xml>

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

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