



SPEC® CFP2006 Result

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SGI

SPECfp®_rate2006 = Not Run

SGI Altix UV 1000 (Intel Xeon E7-4870, 2.4 GHz)

SPECfp_rate_base2006 = 20500

CPU2006 license: 4

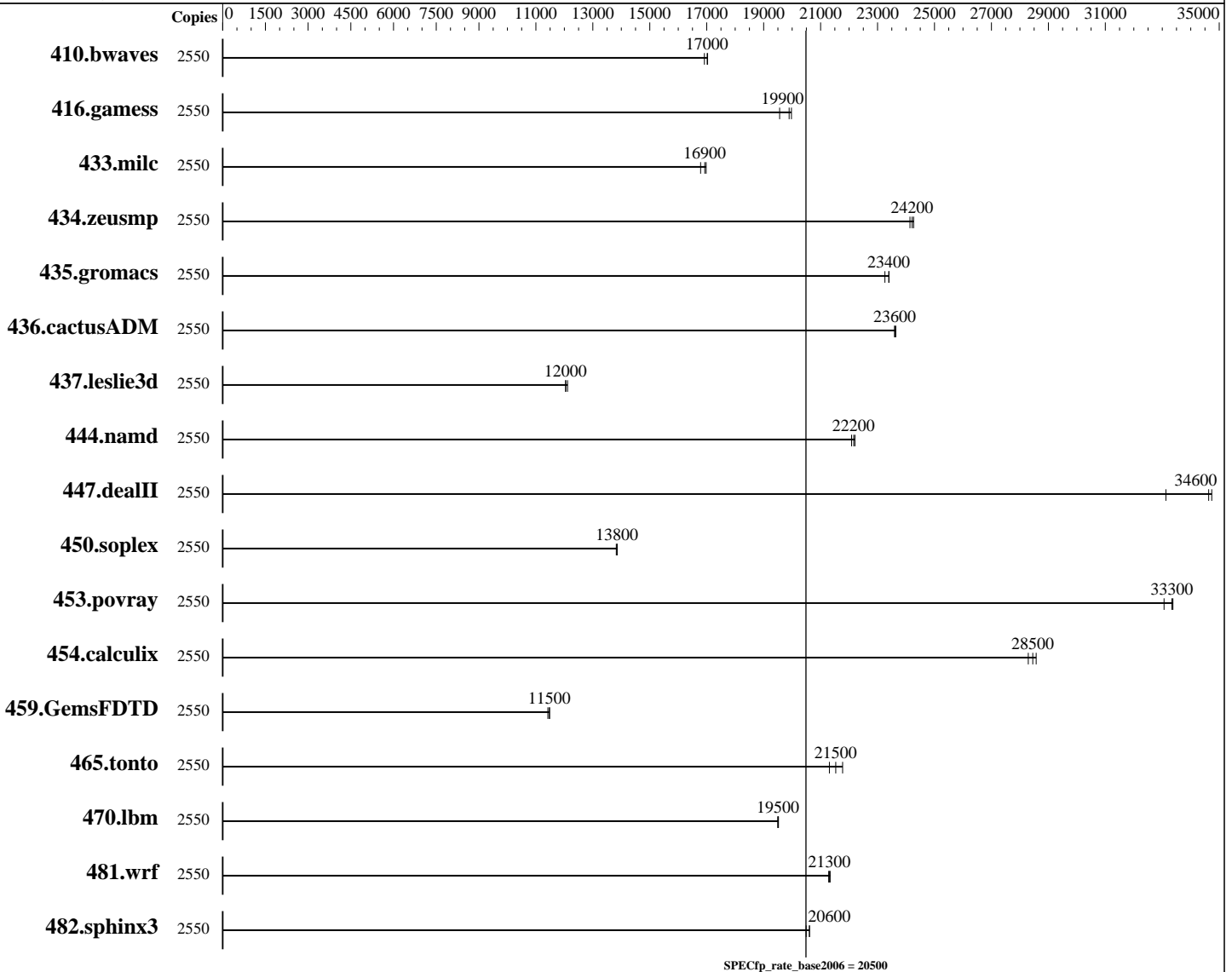
Test sponsor: SGI

Tested by: SGI

Test date: Feb-2011

Hardware Availability: Apr-2011

Software Availability: Mar-2011



Hardware

CPU Name: Intel Xeon E7-4870
 CPU Characteristics: Intel Turbo Boost Technology not enabled
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 1280 cores, 128 chips, 10 cores/chip, 2 threads/core
 CPU(s) orderable: 2-256 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) SP1, Kernel 2.6.32.12-0.7.1-uv
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
 Auto Parallel: No
 File System: tmpfs
 System State: Run Level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: 30 MB I+D on chip per chip
Other Cache: None
Memory: 4 TB (1024 x 4 GB 4Rx8 PC3-8500R-7, ECC)
Disk Subsystem: 4 TB tmpfs
Other Hardware: NUMALink5 routers

Peak Pointers: Not Applicable
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2550	2035	17000	<u>2037</u>	<u>17000</u>	2048	16900							
416.gamess	2550	2553	19600	2499	20000	<u>2510</u>	<u>19900</u>							
433.milc	2550	<u>1383</u>	<u>16900</u>	1395	16800	1379	17000							
434.zeusmp	2550	961	24100	956	24300	<u>958</u>	<u>24200</u>							
435.gromacs	2550	778	23400	783	23300	<u>778</u>	<u>23400</u>							
436.cactusADM	2550	1291	23600	1289	23600	<u>1291</u>	<u>23600</u>							
437.leslie3d	2550	1979	12100	<u>1990</u>	<u>12000</u>	1990	12000							
444.namd	2550	921	22200	926	22100	<u>923</u>	<u>22200</u>							
447.dealII	2550	881	33100	840	34700	<u>842</u>	<u>34600</u>							
450.soplex	2550	<u>1536</u>	<u>13800</u>	1535	13900	1538	13800							
453.povray	2550	<u>407</u>	<u>33300</u>	406	33400	410	33100							
454.calculix	2550	736	28600	<u>739</u>	<u>28500</u>	744	28300							
459.GemsFDTD	2550	<u>2358</u>	<u>11500</u>	2356	11500	2369	11400							
465.tonto	2550	1178	21300	1152	21800	<u>1165</u>	<u>21500</u>							
470.lbm	2550	1797	19500	1795	19500	<u>1796</u>	<u>19500</u>							
481.wrf	2550	1338	21300	1335	21300	<u>1336</u>	<u>21300</u>							
482.sphinx3	2550	2425	20500	2411	20600	<u>2412</u>	<u>20600</u>							

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

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

Tmpfs filesystem set up with:
mkdir -p /mnt/shm
mount -t tmpfs -o size=4096g,rw,mpol=interleave tmpfs /mnt/shm/
The mpol=interleave option sets the NUMA memory allocation policy for all files to allocate from each node in turn.

ulimit -s unlimited

Kernel is generally available as 2.6.32.29-0.3.1.2687.3.PTF-default



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Platform Notes

OS on 146 GB SAS disk

General Notes

Binaries compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

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.deallI: -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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

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Base Optimization Flags (Continued)

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias`

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias`

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/platform.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/platform.xml>

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

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