



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 43.3

PRIMERGY RX300 S4, Intel Xeon E5440, 2.83 GHz

SPECfp_rate_base2006 = 39.4

CPU2006 license: 22

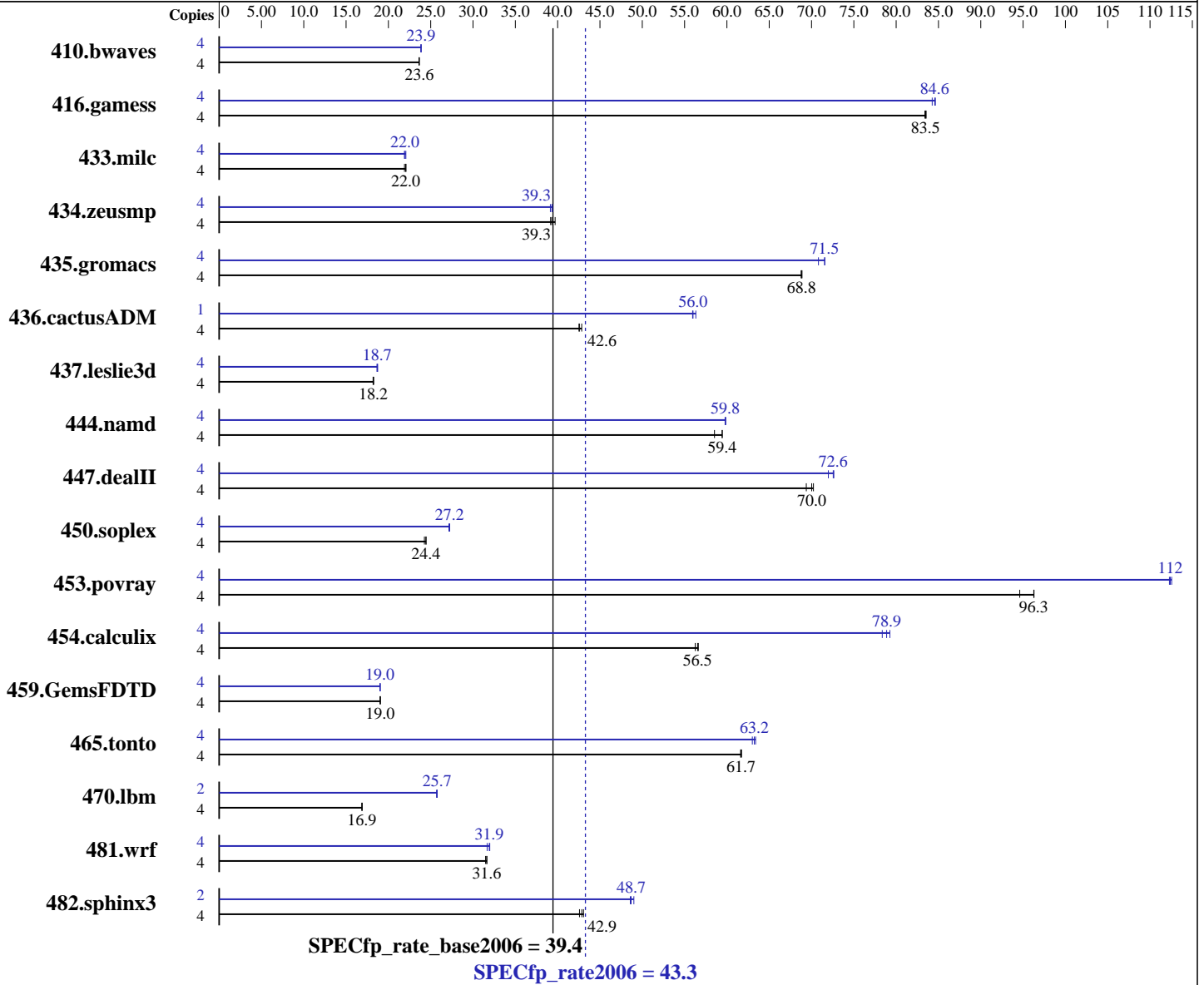
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jun-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5440
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 2833
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 Version 10.1 - Build 20070725
 Auto Parallel: Yes
 File System: ext2
 System State: Multi-User Run Level 3
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB PC2-5300F, 2 rank, CL 5-5-5, ECC)
Disk Subsystem: 1x SAS, 73 GB, 15000 rpm
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: binutils-2.17.50.0.5-0.1.x86_64

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	2299	23.6	<u>2299</u>	<u>23.6</u>	2302	23.6	4	<u>2279</u>	<u>23.9</u>	2276	23.9	2280	23.8
416.gamess	4	937	83.5	939	83.4	<u>938</u>	<u>83.5</u>	4	925	84.6	<u>926</u>	<u>84.6</u>	930	84.3
433.milc	4	1677	21.9	<u>1665</u>	<u>22.0</u>	1663	22.1	4	<u>1672</u>	<u>22.0</u>	1677	21.9	1664	22.1
434.zeusmp	4	929	39.2	<u>926</u>	<u>39.3</u>	917	39.7	4	930	39.1	924	39.4	<u>926</u>	<u>39.3</u>
435.gromacs	4	415	68.8	415	68.9	<u>415</u>	<u>68.8</u>	4	399	71.6	403	70.8	<u>399</u>	<u>71.5</u>
436.cactusADM	4	1124	42.5	1116	42.8	<u>1123</u>	<u>42.6</u>	1	212	56.3	214	55.9	<u>213</u>	<u>56.0</u>
437.leslie3d	4	2067	18.2	<u>2065</u>	<u>18.2</u>	2059	18.3	4	2007	18.7	2016	18.7	<u>2013</u>	<u>18.7</u>
444.namd	4	540	59.5	<u>540</u>	<u>59.4</u>	548	58.5	4	536	59.9	<u>536</u>	<u>59.8</u>	537	59.8
447.dealII	4	660	69.4	<u>653</u>	<u>70.0</u>	652	70.2	4	636	72.0	<u>631</u>	<u>72.6</u>	630	72.6
450.soplex	4	1375	24.3	<u>1365</u>	<u>24.4</u>	1364	24.5	4	1229	27.2	<u>1226</u>	<u>27.2</u>	1224	27.2
453.povray	4	225	94.6	221	96.3	<u>221</u>	<u>96.3</u>	4	190	112	189	113	<u>189</u>	<u>112</u>
454.calculix	4	583	56.6	587	56.3	<u>584</u>	<u>56.5</u>	4	421	78.4	<u>418</u>	<u>78.9</u>	416	79.3
459.GemsFDTD	4	2228	19.0	2231	19.0	<u>2229</u>	<u>19.0</u>	4	2234	19.0	<u>2231</u>	<u>19.0</u>	2229	19.0
465.tonto	4	639	61.6	638	61.7	<u>638</u>	<u>61.7</u>	4	<u>622</u>	<u>63.2</u>	621	63.4	625	63.0
470.lbm	4	3259	16.9	<u>3255</u>	<u>16.9</u>	3253	16.9	2	1066	25.8	<u>1067</u>	<u>25.7</u>	1070	25.7
481.wrf	4	1419	31.5	<u>1413</u>	<u>31.6</u>	1413	31.6	4	<u>1400</u>	<u>31.9</u>	1397	32.0	1411	31.7
482.sphinx3	4	1811	43.1	1831	42.6	<u>1819</u>	<u>42.9</u>	2	795	49.0	<u>801</u>	<u>48.7</u>	802	48.6

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores (default)

Platform Notes

Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

General Notes

All binaries were built with 64-bit Intel compiler except:
437.leslie3d, 450.soplex, 470.lbm, and 482.sphinx3 in peak
were built with 32-bit Intel compiler by changing
the path for include and library files.

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General Notes (Continued)

For information about Fujitsu Siemens Computers please see:
<http://www.fujitsu-siemens.com>

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

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:

-fast

C++ benchmarks:

-fast

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Base Optimization Flags (Continued)

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

Peak Compiler Invocation

C benchmarks (except as noted below):

/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib
-I/opt/intel/fc/10.1.008/include

Benchmarks using both Fortran and C:

icc ifort

Peak 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
444.namd: -DSPEC_CPU_LP64
447.dealII: -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
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX



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Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

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Peak Optimization Flags (Continued)

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.20090713.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.20090713.xml>

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