



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®2006 = 20.6

PRIMERGY RX200 S4, Intel Xeon E5420, 2.50 GHz

SPECfp_base2006 = 17.4

CPU2006 license: 22

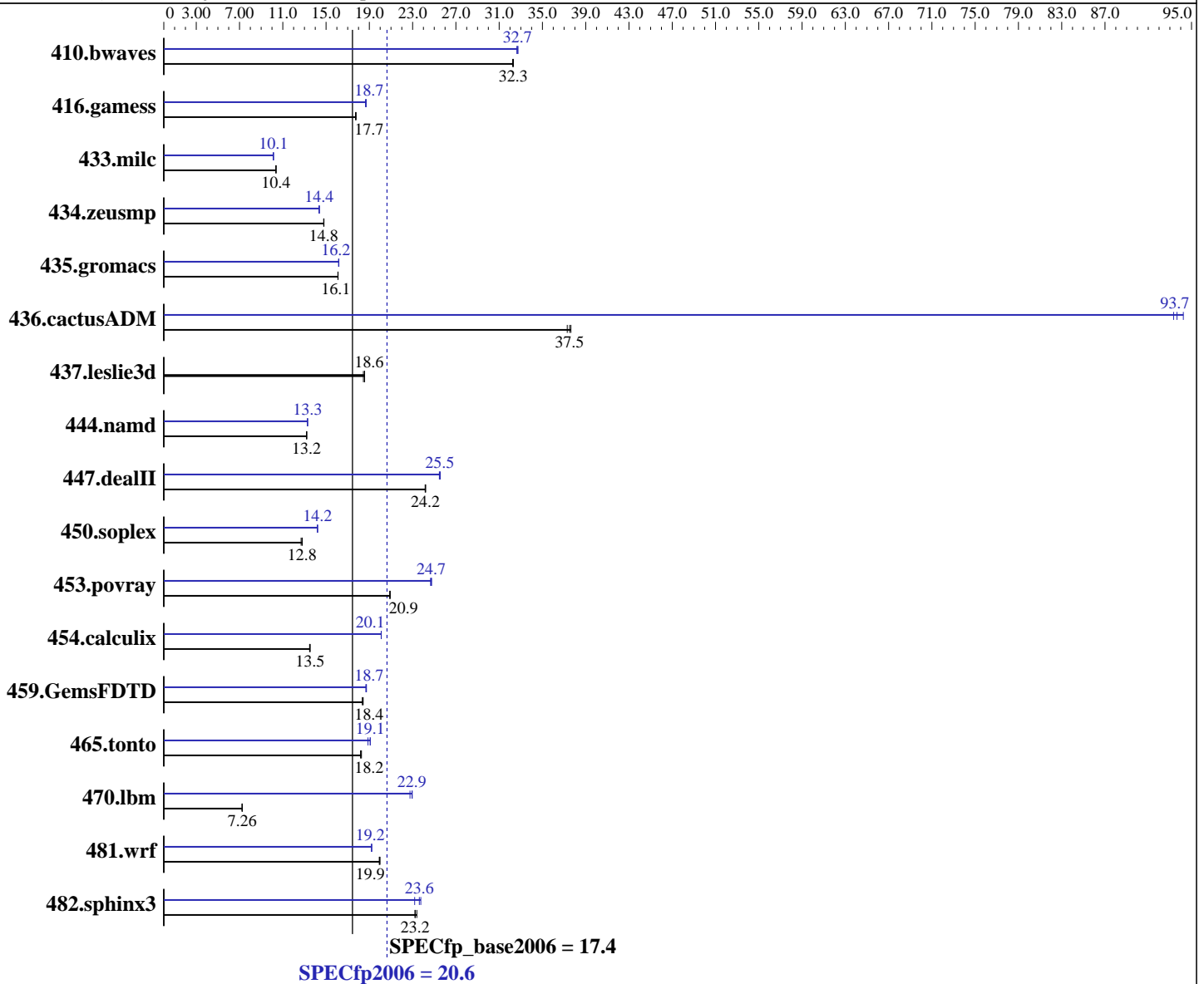
Test date: May-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Dec-2007

Tested by: Fujitsu Siemens Computers

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5420
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 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 20070913
 Auto Parallel: Yes
 File System: ext2
 System State: Multi-User Run Level 3
 Base Pointers: 64-bit
 Peak Pointers: 32/64-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

Other Software: binutils-2.17.50.0.5-0.1.x86_64

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	421	32.3	421	32.3	422	32.2	416	32.7	416	32.6	415	32.7
416.gamess	1104	17.7	1102	17.8	1104	17.7	1050	18.6	1047	18.7	1047	18.7
433.milc	885	10.4	885	10.4	886	10.4	906	10.1	905	10.1	908	10.1
434.zeusmp	616	14.8	615	14.8	615	14.8	634	14.4	633	14.4	634	14.4
435.gromacs	443	16.1	444	16.1	443	16.1	442	16.2	442	16.2	441	16.2
436.cactusADM	318	37.6	319	37.5	320	37.3	128	93.3	128	93.7	127	94.2
437.leslie3d	507	18.6	506	18.6	509	18.5	507	18.6	506	18.6	509	18.5
444.namd	608	13.2	608	13.2	607	13.2	603	13.3	603	13.3	604	13.3
447.dealII	473	24.2	473	24.2	474	24.2	448	25.5	449	25.5	448	25.6
450.soplex	653	12.8	651	12.8	657	12.7	587	14.2	587	14.2	587	14.2
453.povray	255	20.9	255	20.9	254	20.9	215	24.7	216	24.7	215	24.8
454.calculix	612	13.5	610	13.5	610	13.5	410	20.1	410	20.1	411	20.1
459.GemsFDTD	576	18.4	577	18.4	578	18.4	568	18.7	567	18.7	566	18.7
465.tonto	539	18.3	541	18.2	540	18.2	521	18.9	516	19.1	516	19.1
470.lbm	1893	7.26	1891	7.27	1904	7.22	598	23.0	599	22.9	604	22.8
481.wrf	559	20.0	561	19.9	560	19.9	582	19.2	581	19.2	581	19.2
482.sphinx3	833	23.4	840	23.2	838	23.2	820	23.8	840	23.2	825	23.6

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

BIOS configuration:
Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable

General Notes

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

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General Notes (Continued)

for include and library files.

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.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:
-fast -parallel

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Base Optimization Flags (Continued)

C++ benchmarks:

-fast -parallel

Fortran benchmarks:

-fast -parallel

Benchmarks using both Fortran and C:

-fast -parallel

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:

ifort

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

437.leslie3d: -DSPEC_CPU_LP64

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 -parallel

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: basepeak = yes

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

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

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

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Peak Optimization Flags (Continued)

481.wrf: -fast -parallel -prefetch -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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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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