SPEC® CFP2006 Result

Fujitsu Siemens Computers

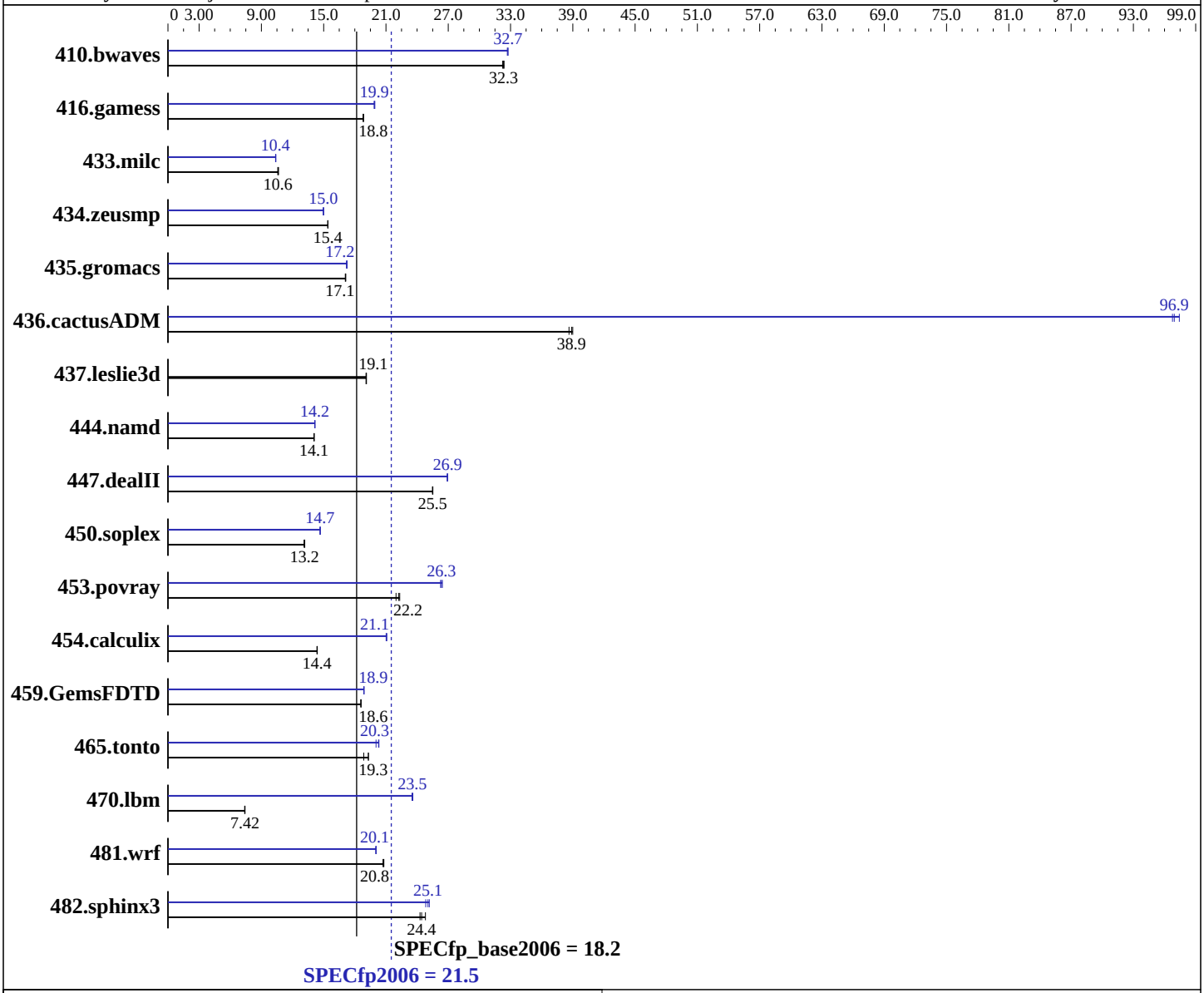
PRIMERGY RX300 S4, Intel Xeon E5430, 2.66 GHz

SPECfp®2006 = 21.5

SPECfp_base2006 = 18.2

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Jul-2008
Hardware Availability: Dec-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon E5430
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2667
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	422	32.2	**420**	**32.3**	420	32.4	415	32.8	**415**	**32.7**	416	32.7
416.gamess	1040	18.8	**1040**	**18.8**	1042	18.8	**985**	**19.9**	986	19.9	982	19.9
433.milc	862	10.7	**866**	**10.6**	867	10.6	886	10.4	**885**	**10.4**	883	10.4
434.zeusmp	590	15.4	591	15.4	**591**	**15.4**	607	15.0	**608**	**15.0**	608	15.0
435.gromacs	**417**	**17.1**	417	17.1	418	17.1	415	17.2	414	17.3	**414**	**17.2**
436.cactusADM	306	39.0	309	38.6	**307**	**38.9**	123	96.8	**123**	**96.9**	123	97.4
437.leslie3d	492	19.1	**492**	**19.1**	493	19.1	492	19.1	**492**	**19.1**	493	19.1
444.namd	570	14.1	**570**	**14.1**	569	14.1	**567**	**14.2**	567	14.2	566	14.2
447.dealII	448	25.5	449	25.5	**448**	**25.5**	**425**	**26.9**	425	26.9	425	26.9
450.soplex	636	13.1	**633**	**13.2**	633	13.2	**569**	**14.7**	568	14.7	569	14.6
453.povray	242	22.0	**240**	**22.2**	238	22.3	201	26.4	**202**	**26.3**	203	26.3
454.calculix	573	14.4	575	14.4	**574**	**14.4**	393	21.0	392	21.1	**392**	**21.1**
459.GemsFDTD	**571**	**18.6**	571	18.6	571	18.6	562	18.9	**562**	**18.9**	562	18.9
465.tonto	522	18.9	**510**	**19.3**	510	19.3	484	20.3	**485**	**20.3**	491	20.0
470.lbm	1852	7.42	**1852**	**7.42**	1860	7.39	582	23.6	584	23.5	**584**	**23.5**
481.wrf	537	20.8	539	20.7	**538**	**20.8**	**557**	**20.1**	557	20.1	558	20.0
482.sphinx3	786	24.8	803	24.3	**798**	**24.4**	785	24.8	774	25.2	**778**	**25.1**

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 = 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
for include and library files.

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General Notes (Continued)

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

C++ benchmarks:
-fast -parallel

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Base Optimization Flags (Continued)

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`

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`

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

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