SPEC® CFP2006 Result

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HITACHI

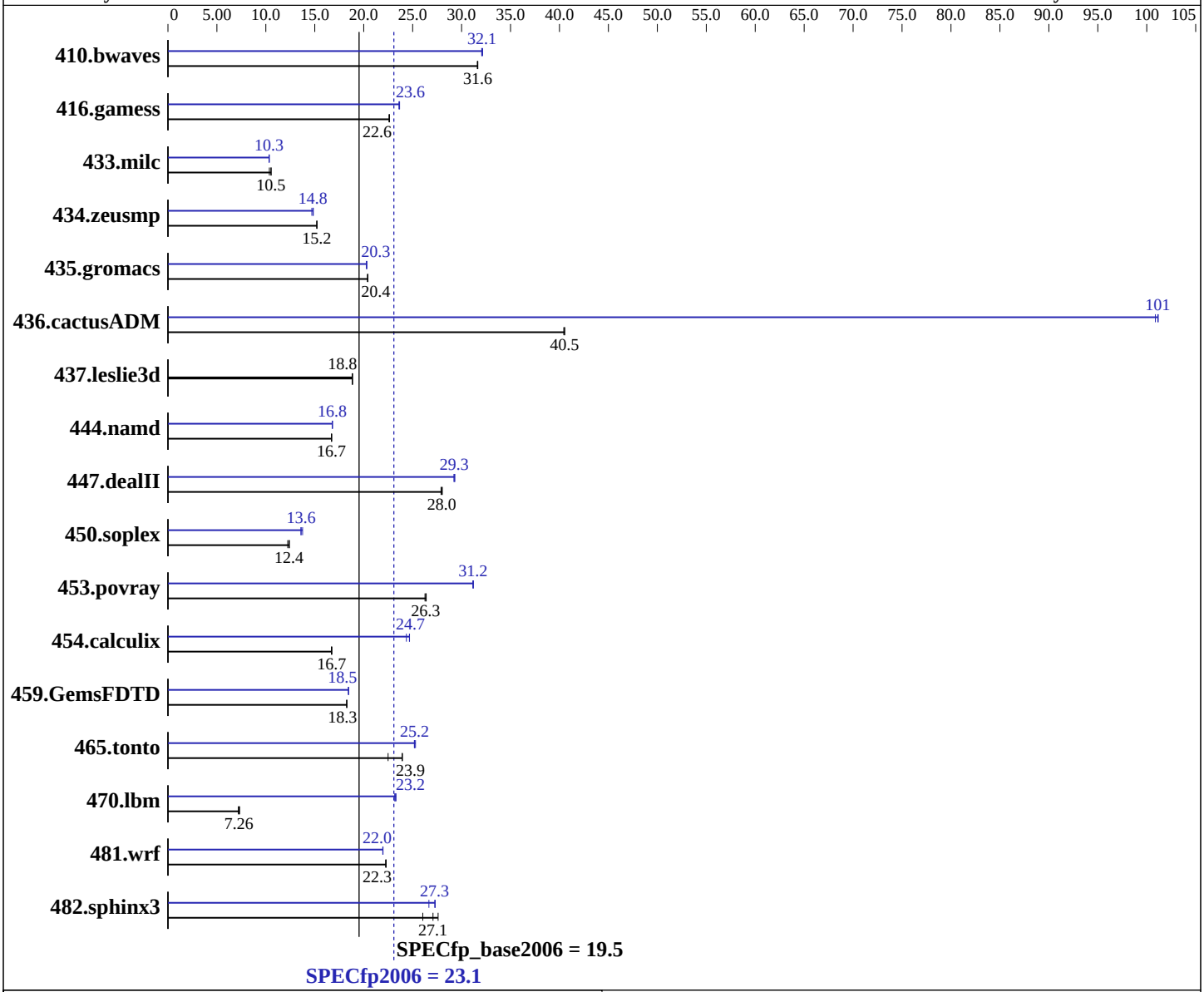
BladeSymphony BS1000 (Intel Xeon X5460)

SPECfp®2006 = 23.1

SPECfp_base2006 = 19.5

CPU2006 license: 872
Test sponsor: HITACHI
Tested by: HITACHI

Test date: Feb-2008
Hardware Availability: Nov-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5460
CPU Characteristics:	1333MHz system bus
CPU MHz:	3160
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:	Red Hat Enterprise Linux Server release 5.1 (Tikanga) Kernel 2.6.18-53.el5 on an x86_64
Compiler:	Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008

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L3 Cache:	None
Other Cache:	None
Memory:	16 GB(8 x 2 GB PC2-5300F CAS 5-5-5)
Disk Subsystem:	1 x 73 GB 10000 rpm SAS
Other Hardware:	None

Auto Parallel:	Yes
File System:	ext3
System State:	Multi-user run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	430	31.6	429	31.7	**429**	**31.6**	**424**	**32.1**	424	32.1	423	32.2
416.gamess	**866**	**22.6**	866	22.6	865	22.6	827	23.7	**829**	**23.6**	829	23.6
433.milc	886	10.4	**872**	**10.5**	871	10.5	888	10.3	**888**	**10.3**	888	10.3
434.zeusmp	598	15.2	**598**	**15.2**	598	15.2	**614**	**14.8**	619	14.7	613	14.9
435.gromacs	350	20.4	**350**	**20.4**	349	20.4	352	20.3	352	20.3	**352**	**20.3**
436.cactusADM	295	40.4	295	40.5	**295**	**40.5**	118	101	**118**	**101**	118	101
437.leslie3d	499	18.9	**499**	**18.8**	499	18.8	499	18.9	**499**	**18.8**	499	18.8
444.namd	480	16.7	**480**	**16.7**	480	16.7	477	16.8	478	16.8	**477**	**16.8**
447.dealII	**409**	**28.0**	410	27.9	408	28.0	390	29.3	**391**	**29.3**	392	29.2
450.soplex	**674**	**12.4**	682	12.2	672	12.4	614	13.6	**613**	**13.6**	606	13.8
453.povray	203	26.3	**202**	**26.3**	202	26.4	**171**	**31.2**	170	31.2	171	31.2
454.calculix	494	16.7	493	16.7	**493**	**16.7**	**334**	**24.7**	339	24.4	334	24.7
459.GemsFDTD	581	18.3	**581**	**18.3**	581	18.3	**575**	**18.5**	575	18.5	576	18.4
465.tonto	411	24.0	**411**	**23.9**	438	22.5	**391**	**25.2**	389	25.3	391	25.2
470.lbm	1911	7.19	**1893**	**7.26**	1877	7.32	590	23.3	593	23.2	**592**	**23.2**
481.wrf	502	22.2	501	22.3	**501**	**22.3**	**509**	**22.0**	509	21.9	508	22.0
482.sphinx3	706	27.6	**720**	**27.1**	749	26.0	731	26.7	**715**	**27.3**	714	27.3

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

General Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

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Base Compiler Invocation (Continued)

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

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

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Peak Compiler Invocation (Continued)

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

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Peak Optimization Flags (Continued)

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

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/Intel-ic10.1-FP-intel64-linux-flags.20090713.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090713.01.xml

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

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