SPEC® CFP2006 Result

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HITACHI

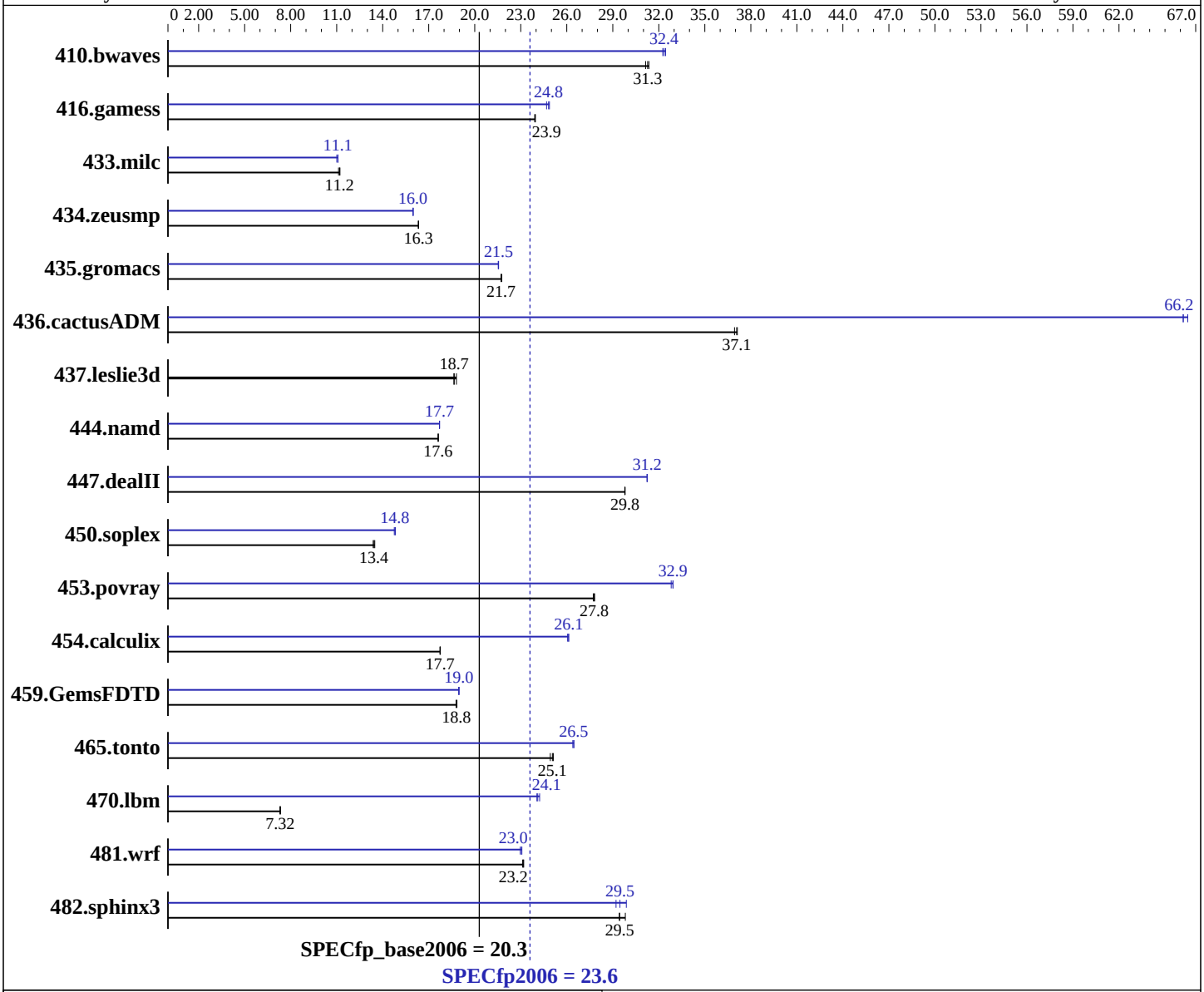
BladeSymphony BS320 (Intel Xeon X5260)

SPECfp®2006 = 23.6

SPECfp_base2006 = 20.3

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

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



Hardware

CPU Name:	Intel Xeon X5260
CPU Characteristics:	1333MHz system bus
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1, 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip

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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(4 x 4 GB PC2-5300F CAS 5-5-5)
Disk Subsystem:	1 x 147 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	436	31.1	**435**	**31.3**	433	31.4	419	32.4	421	32.3	**420**	**32.4**
416.gamess	819	23.9	817	24.0	**818**	**23.9**	**789**	**24.8**	787	24.9	793	24.7
433.milc	825	11.1	**820**	**11.2**	819	11.2	828	11.1	834	11.0	**829**	**11.1**
434.zeusmp	**557**	**16.3**	557	16.3	557	16.3	569	16.0	569	16.0	**569**	**16.0**
435.gromacs	328	21.8	329	21.7	**329**	**21.7**	332	21.5	**331**	**21.5**	331	21.6
436.cactusADM	**322**	**37.1**	322	37.1	324	36.9	**181**	**66.2**	181	66.2	180	66.5
437.leslie3d	504	18.6	**504**	**18.7**	500	18.8	504	18.6	**504**	**18.7**	500	18.8
444.namd	455	17.6	455	17.6	**455**	**17.6**	453	17.7	453	17.7	**453**	**17.7**
447.dealII	**384**	**29.8**	384	29.8	384	29.8	**366**	**31.2**	366	31.2	366	31.2
450.soplex	**621**	**13.4**	623	13.4	619	13.5	563	14.8	565	14.8	**563**	**14.8**
453.povray	191	27.8	**191**	**27.8**	192	27.7	162	32.9	162	32.8	**162**	**32.9**
454.calculix	465	17.8	465	17.7	**465**	**17.7**	317	26.1	316	26.1	**316**	**26.1**
459.GemsFDTD	565	18.8	**564**	**18.8**	563	18.8	559	19.0	**559**	**19.0**	560	19.0
465.tonto	**393**	**25.1**	395	24.9	392	25.1	372	26.5	373	26.4	**372**	**26.5**
470.lbm	**1877**	**7.32**	1882	7.30	1873	7.33	567	24.2	**570**	**24.1**	571	24.1
481.wrf	483	23.1	482	23.2	**482**	**23.2**	486	23.0	484	23.1	**485**	**23.0**
482.sphinx3	654	29.8	662	29.4	**662**	**29.5**	652	29.9	**661**	**29.5**	667	29.2

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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