SPEC® CFP2006 Result

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HITACHI

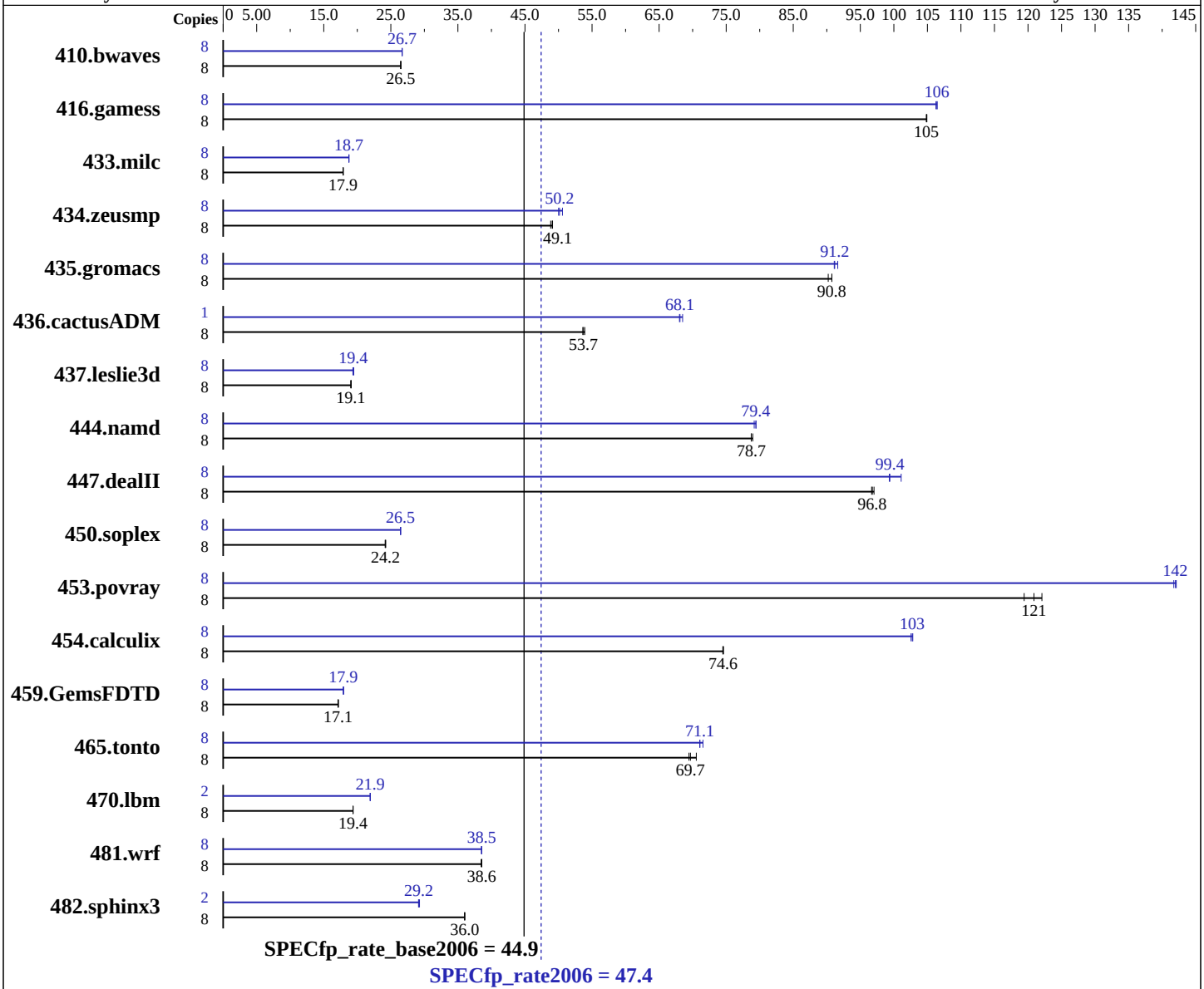
BladeSymphony BS320 es (Intel Xeon L5320)

SPECfp®_rate2006 = 47.4

SPECfp_rate_base2006 = 44.9

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

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



Hardware

CPU Name:	Intel Xeon L5320
CPU Characteristics:	1066MHz system bus
CPU MHz:	1860
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:	8 MB I+D on chip per chip, 4 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(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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	4108	26.5	**4105**	**26.5**	4103	26.5	8	4076	26.7	4072	26.7	**4073**	**26.7**
416.gamess	8	**1494**	**105**	1493	105	1494	105	8	1474	106	1471	106	**1472**	**106**
433.milc	8	4108	17.9	4101	17.9	**4106**	**17.9**	8	**3917**	**18.7**	3918	18.7	3915	18.8
434.zeusmp	8	**1484**	**49.1**	1482	49.1	1491	48.8	8	1456	50.0	1439	50.6	**1452**	**50.2**
435.gromacs	8	633	90.2	629	90.8	**629**	**90.8**	8	627	91.1	**626**	**91.2**	623	91.6
436.cactusADM	8	1773	53.9	**1779**	**53.7**	1783	53.6	1	176	68.0	**175**	**68.1**	174	68.5
437.leslie3d	8	**3947**	**19.1**	3952	19.0	3938	19.1	8	3888	19.3	**3870**	**19.4**	3861	19.5
444.namd	8	815	78.7	**815**	**78.7**	813	79.0	8	810	79.2	**808**	**79.4**	808	79.4
447.dealII	8	947	96.7	**946**	**96.8**	943	97.0	8	921	99.3	**921**	**99.4**	905	101
450.soplex	8	**2755**	**24.2**	2755	24.2	2762	24.2	8	2524	26.4	2520	26.5	**2522**	**26.5**
453.povray	8	349	122	356	119	**352**	**121**	8	300	142	299	142	**300**	**142**
454.calculix	8	886	74.5	885	74.6	**885**	**74.6**	8	642	103	644	103	**642**	**103**
459.GemsFDTD	8	4936	17.2	**4955**	**17.1**	4959	17.1	8	4738	17.9	4727	18.0	**4734**	**17.9**
465.tonto	8	1133	69.5	1116	70.5	**1130**	**69.7**	8	1108	71.1	1100	71.5	**1107**	**71.1**
470.lbm	8	**5676**	**19.4**	5677	19.4	5675	19.4	2	**1253**	**21.9**	1253	21.9	1253	21.9
481.wrf	8	2317	38.6	**2317**	**38.6**	2323	38.5	8	2321	38.5	2317	38.6	**2318**	**38.5**
482.sphinx3	8	4331	36.0	4328	36.0	**4330**	**36.0**	2	**1336**	**29.2**	1331	29.3	1338	29.1

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
'/bin/taskset' used to bind processes to CPUs
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
```

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

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

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`
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`

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Peak Optimization Flags (Continued)

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

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/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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