SPEC® CFP2006 Result

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HITACHI

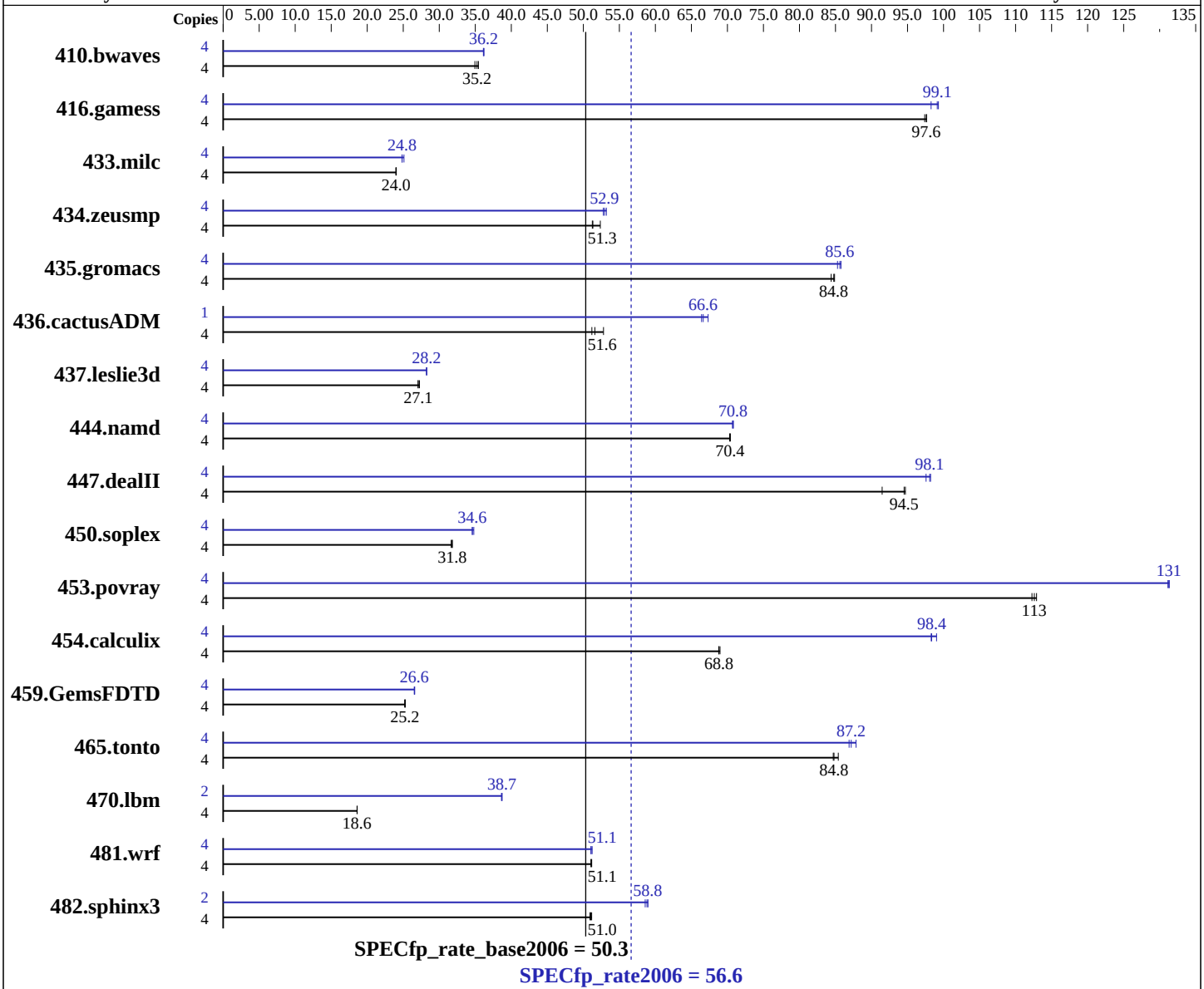
BladeSymphony BS320 (Intel Xeon X5260)

SPECfp®_rate2006 = 56.6

SPECfp_rate_base2006 = 50.3

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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**1542**	**35.2**	1555	34.9	1534	35.4	4	1502	36.2	1505	36.1	**1503**	**36.2**
416.gamess	4	**802**	**97.6**	804	97.4	802	97.7	4	**790**	**99.1**	789	99.3	797	98.3
433.milc	4	**1530**	**24.0**	1531	24.0	1528	24.0	4	1463	25.1	**1478**	**24.8**	1478	24.8
434.zeusmp	4	710	51.2	**709**	**51.3**	695	52.4	4	**687**	**52.9**	690	52.8	684	53.2
435.gromacs	4	338	84.4	**337**	**84.8**	337	84.9	4	**334**	**85.6**	333	85.8	335	85.3
436.cactusADM	4	934	51.2	905	52.8	**926**	**51.6**	1	180	66.4	178	67.3	**179**	**66.6**
437.leslie3d	4	1390	27.1	**1388**	**27.1**	1380	27.3	4	1332	28.2	**1331**	**28.2**	1331	28.3
444.namd	4	456	70.4	**456**	**70.4**	456	70.3	4	453	70.8	454	70.7	**453**	**70.8**
447.dealII	4	500	91.5	**484**	**94.5**	483	94.7	4	466	98.2	469	97.6	**467**	**98.1**
450.soplex	4	1049	31.8	**1049**	**31.8**	1054	31.7	4	**964**	**34.6**	959	34.8	965	34.6
453.povray	4	188	113	**189**	**113**	190	112	4	162	131	162	131	**162**	**131**
454.calculix	4	478	69.0	**480**	**68.8**	480	68.8	4	333	99.0	**336**	**98.4**	336	98.3
459.GemsFDTD	4	1683	25.2	**1682**	**25.2**	1678	25.3	4	1600	26.5	1596	26.6	**1598**	**26.6**
465.tonto	4	**464**	**84.8**	461	85.4	465	84.7	4	**451**	**87.2**	453	86.9	448	87.9
470.lbm	4	2957	18.6	**2956**	**18.6**	2953	18.6	2	**710**	**38.7**	710	38.7	711	38.6
481.wrf	4	875	51.1	873	51.2	**875**	**51.1**	4	872	51.2	875	51.1	**875**	**51.1**
482.sphinx3	4	1531	50.9	1524	51.2	**1528**	**51.0**	2	**663**	**58.8**	665	58.6	661	59.0

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`

Continued on next page

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

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