



SPEC[®] CFP2006 Result

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HITACHI

SPECfp[®]_rate2006 = 77.2

BladeSymphony BS1000 (Intel Xeon X5460)

SPECfp_rate_base2006 = 68.2

CPU2006 license: 872

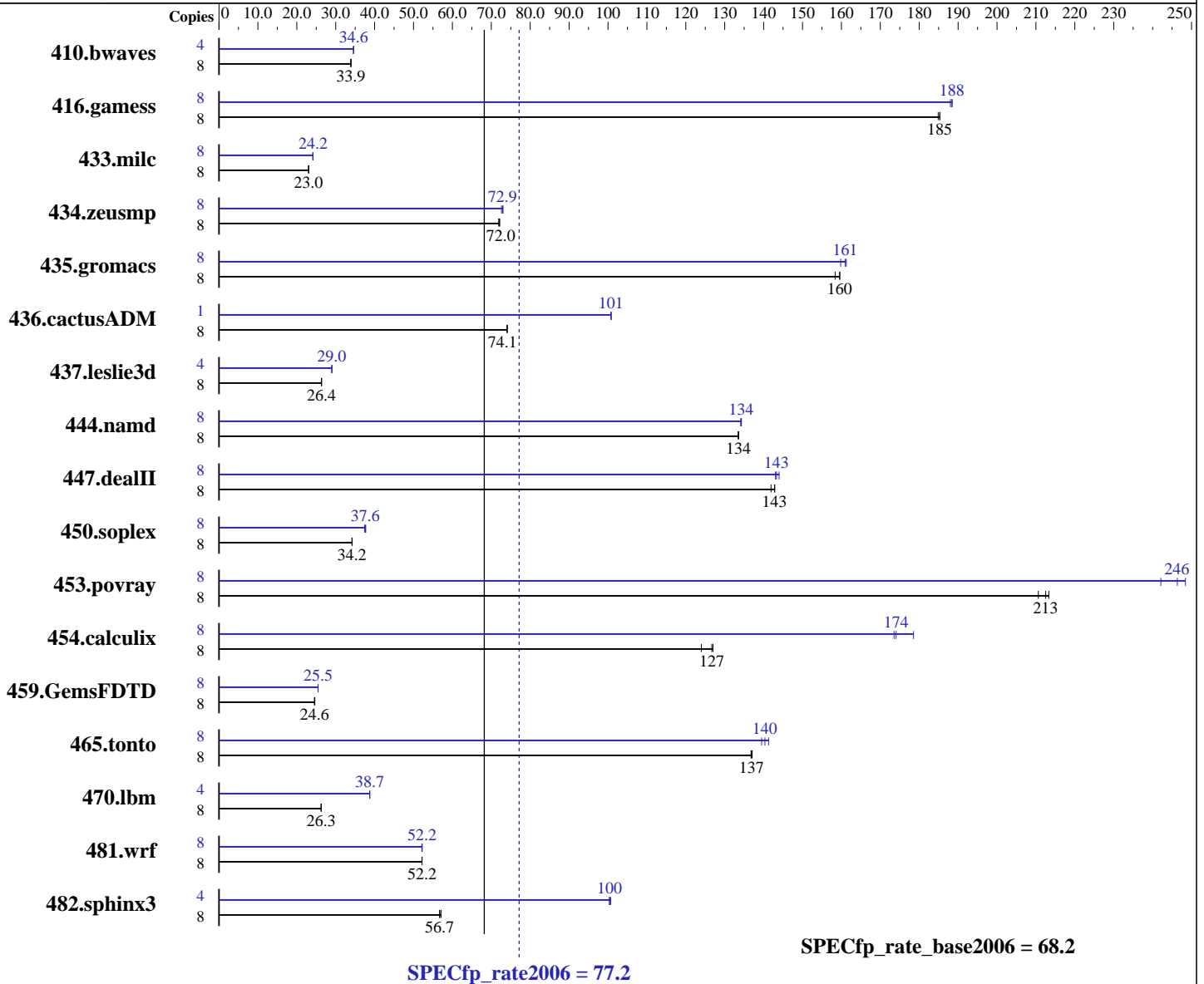
Test date: Feb-2008

Test sponsor: HITACHI

Hardware Availability: Nov-2007

Tested by: HITACHI

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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3206	33.9	3205	33.9	3208	33.9	4	1572	34.6	1571	34.6	1571	34.6
416.gamess	8	847	185	845	185	845	185	8	833	188	831	188	831	188
433.milc	8	3187	23.0	3188	23.0	3188	23.0	8	3036	24.2	3048	24.1	3037	24.2
434.zeusmp	8	1011	72.0	1012	71.9	1009	72.2	8	997	73.0	1003	72.6	999	72.9
435.gromacs	8	361	158	358	160	358	160	8	354	161	355	161	357	160
436.cactusADM	8	1292	74.0	1291	74.1	1290	74.1	1	119	101	119	101	119	101
437.leslie3d	8	2853	26.4	2853	26.4	2855	26.3	4	1296	29.0	1297	29.0	1296	29.0
444.namd	8	481	133	481	134	480	134	8	478	134	478	134	478	134
447.dealII	8	641	143	641	143	645	142	8	640	143	636	144	639	143
450.soplex	8	1952	34.2	1950	34.2	1948	34.2	8	1774	37.6	1783	37.4	1769	37.7
453.povray	8	200	213	200	213	202	211	8	173	246	176	242	171	248
454.calculix	8	532	124	521	127	520	127	8	370	179	379	174	380	174
459.GemsFDTD	8	3458	24.5	3444	24.6	3456	24.6	8	3332	25.5	3331	25.5	3334	25.5
465.tonto	8	576	137	574	137	575	137	8	564	139	561	140	557	141
470.lbm	8	4187	26.3	4184	26.3	4184	26.3	4	1419	38.7	1418	38.8	1419	38.7
481.wrf	8	1713	52.2	1712	52.2	1712	52.2	8	1714	52.1	1710	52.2	1713	52.2
482.sphinx3	8	2732	57.1	2748	56.7	2750	56.7	4	776	100	777	100	774	101

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



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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



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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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