SPEC® CFP2006 Result

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HITACHI

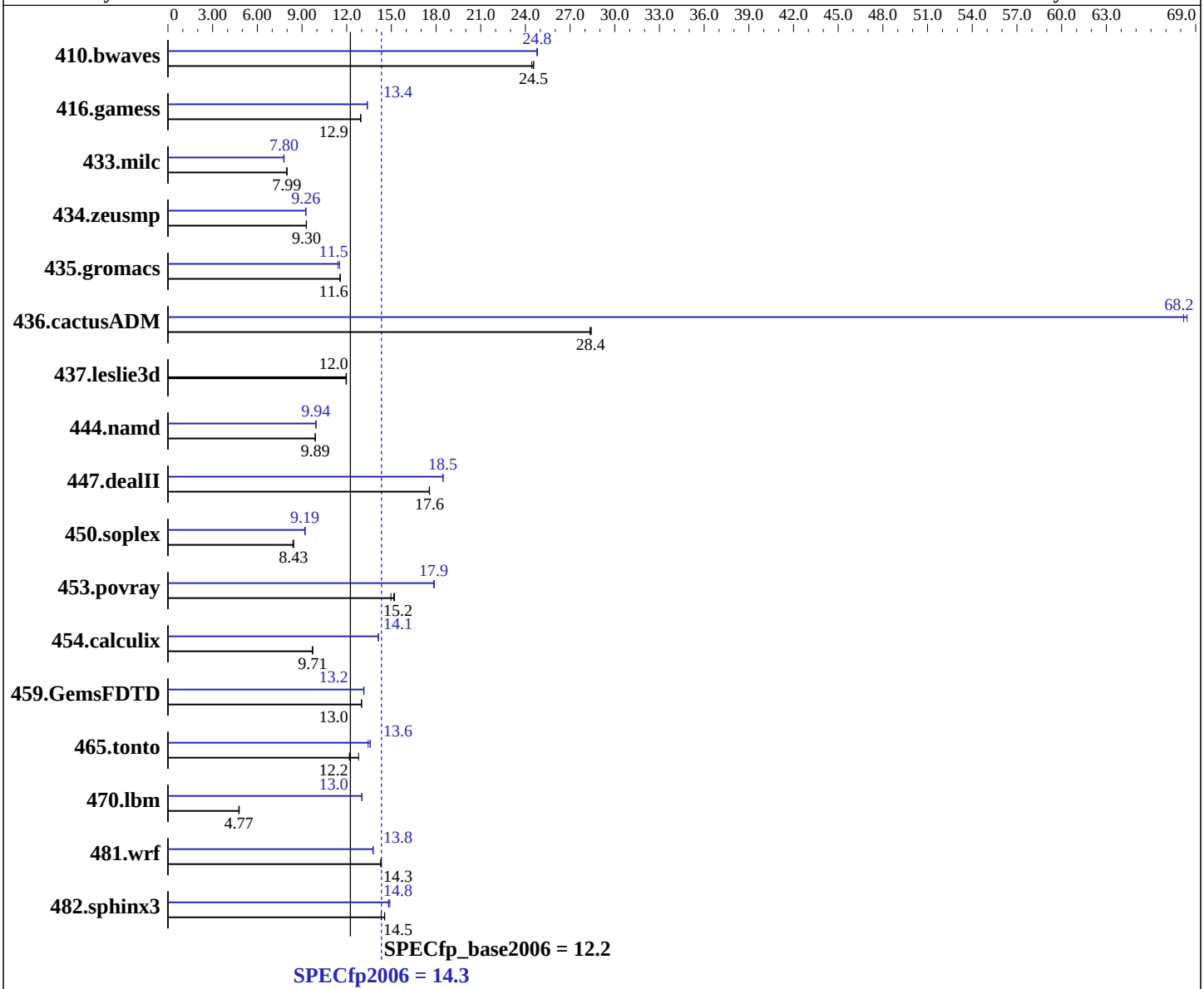
BladeSymphony BS320 es (Intel Xeon L5320)

SPECfp®2006 = 14.3

SPECfp_base2006 = 12.2

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

Continued on next page

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L3 Cache:	None	Auto Parallel:	Yes
Other Cache:	None	File System:	ext3
Memory:	16 GB(4 x 4 GB PC2-5300F CAS 5-5-5)	System State:	Multi-user run level 3
Disk Subsystem:	1 x 147 GB 10000 rpm SAS	Base Pointers:	64-bit
Other Hardware:	None	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	553	24.6	556	24.4	**554**	**24.5**	548	24.8	549	24.8	**548**	**24.8**
416.gamess	1514	12.9	1513	12.9	**1513**	**12.9**	**1463**	**13.4**	1464	13.4	1462	13.4
433.milc	**1149**	**7.99**	1151	7.97	1148	7.99	**1178**	**7.80**	1177	7.80	1181	7.77
434.zeusmp	980	9.28	979	9.30	**979**	**9.30**	**983**	**9.26**	985	9.24	982	9.26
435.gromacs	**618**	**11.6**	617	11.6	618	11.6	625	11.4	619	11.5	**619**	**11.5**
436.cactusADM	422	28.3	420	28.4	**421**	**28.4**	175	68.4	175	68.2	**175**	**68.2**
437.leslie3d	**786**	**12.0**	784	12.0	786	12.0	**786**	**12.0**	784	12.0	786	12.0
444.namd	810	9.90	**811**	**9.89**	811	9.89	808	9.93	806	9.95	**807**	**9.94**
447.dealII	651	17.6	**652**	**17.6**	652	17.5	619	18.5	**619**	**18.5**	620	18.5
450.soplex	989	8.43	**990**	**8.43**	994	8.39	**907**	**9.19**	909	9.18	905	9.22
453.povray	350	15.2	355	15.0	**351**	**15.2**	297	17.9	**298**	**17.9**	298	17.8
454.calculix	**850**	**9.71**	850	9.71	850	9.71	584	14.1	**584**	**14.1**	584	14.1
459.GemsFDTD	816	13.0	817	13.0	**817**	**13.0**	806	13.2	**807**	**13.2**	808	13.1
465.tonto	808	12.2	769	12.8	**806**	**12.2**	725	13.6	**725**	**13.6**	732	13.4
470.lbm	2888	4.76	**2881**	**4.77**	2870	4.79	**1056**	**13.0**	1054	13.0	1056	13.0
481.wrf	782	14.3	**781**	**14.3**	780	14.3	**812**	**13.8**	810	13.8	812	13.8
482.sphinx3	1339	14.6	**1340**	**14.5**	1361	14.3	1308	14.9	1316	14.8	**1316**	**14.8**

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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