



# SPEC<sup>®</sup> CFP2006 Result

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## HITACHI

SPECfp<sup>®</sup>2006 = 23.6

### BladeSymphony BS320 (Intel Xeon X5260)

SPECfp\_base2006 = 20.3

CPU2006 license: 872

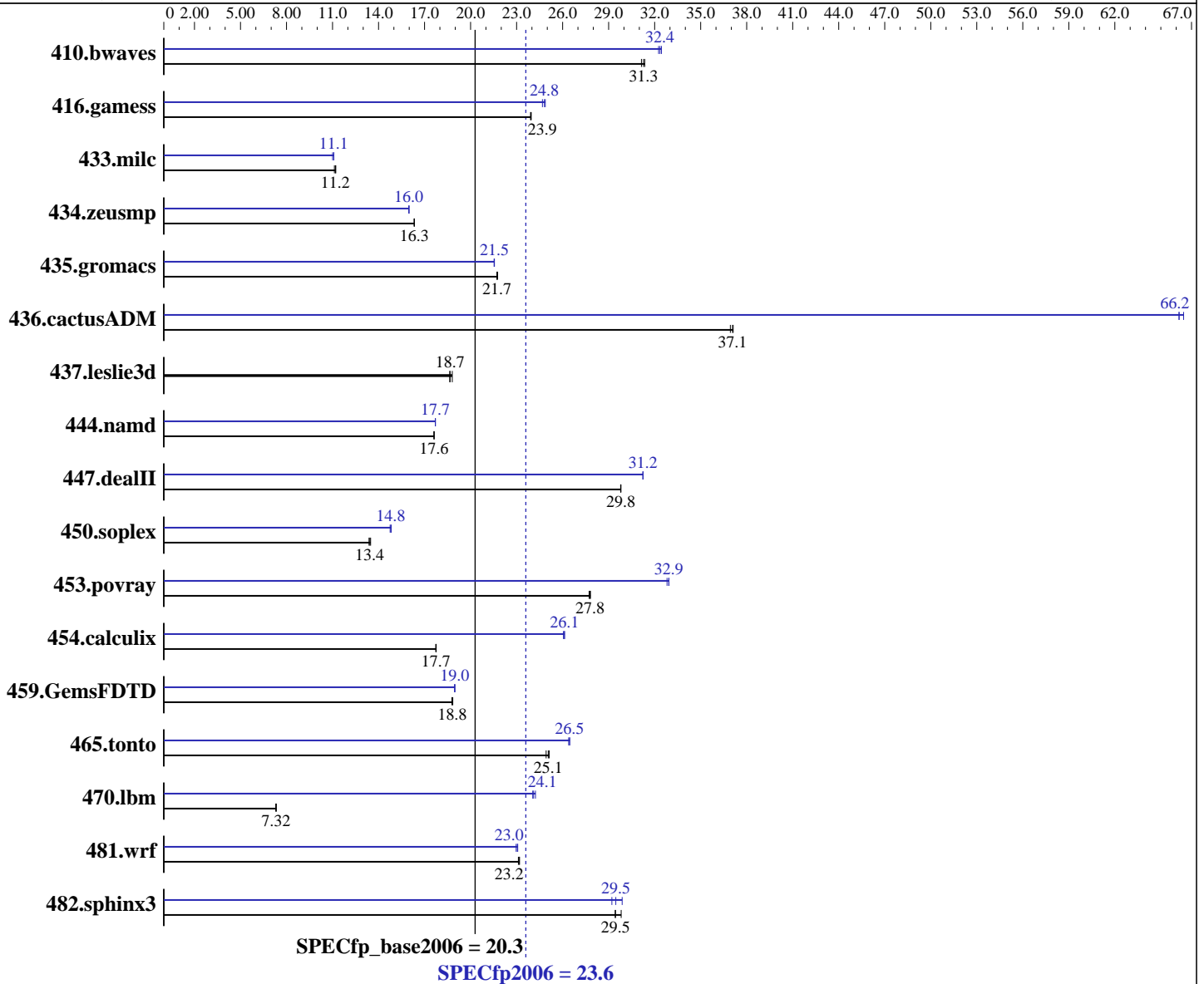
Test sponsor: HITACHI

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

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.1.  
Report generated on Tue Jul 22 15:48:05 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 5 March 2008.