



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECfp<sup>®</sup>\_rate2006 = 112

BladeSymphony BS2000 (Intel Xeon E5603)

SPECfp\_rate\_base2006 = 107

CPU2006 license: 35

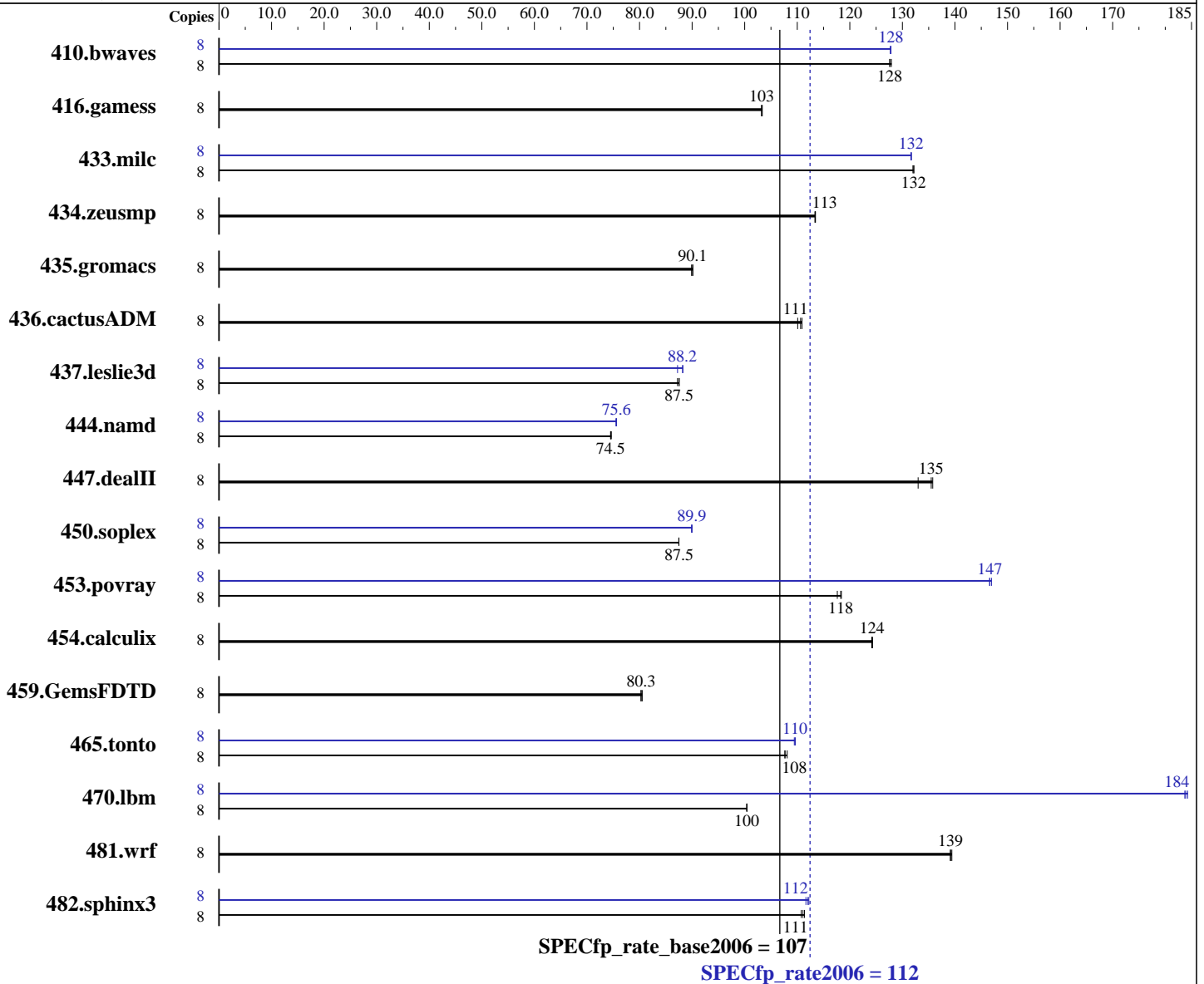
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Apr-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E5603  
 CPU Characteristics:  
 CPU MHz: 1600  
 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: 256 KB I+D on chip per core

Continued on next page

### Software

Operating System: Red Hat Enterprise Linux  
 Server release 5.4.3, Advanced Platform,  
 Kernel 2.6.18-164.9.1.el5 on an x86\_64  
 Compiler: Intel C++ Compiler XE for Linux  
 Version 12.0.2.137 Build 20110112  
 Intel Fortran Compiler XE for Linux  
 Version 12.0.2.137 Build 20110112  
 Auto Parallel: No  
 File System: ext3

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECfp\_rate2006 = 112

BladeSymphony BS2000 (Intel Xeon E5603)

SPECfp\_rate\_base2006 = 107

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Apr-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011

L3 Cache: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1066 MHz)  
 Disk Subsystem: 2 x 146 GB 10000 rpm SAS RAID1 configuration  
 Other Hardware: None

System State: Run level 3 (multi-user)  
 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	<b>852</b>	<b>128</b>	852	128	850	128	8	851	128	850	128	<b>851</b>	<b>128</b>
416.gamess	8	1516	103	<b>1517</b>	<b>103</b>	1518	103	8	1516	103	<b>1517</b>	<b>103</b>	1518	103
433.milc	8	556	132	<b>556</b>	<b>132</b>	556	132	8	<b>558</b>	<b>132</b>	558	132	558	132
434.zeusmp	8	<b>642</b>	<b>113</b>	642	113	642	113	8	<b>642</b>	<b>113</b>	642	113	642	113
435.gromacs	8	<b>634</b>	<b>90.1</b>	635	89.9	634	90.1	8	<b>634</b>	<b>90.1</b>	635	89.9	634	90.1
436.cactusADM	8	868	110	<b>864</b>	<b>111</b>	862	111	8	868	110	<b>864</b>	<b>111</b>	862	111
437.leslie3d	8	<b>859</b>	<b>87.5</b>	859	87.5	862	87.2	8	862	87.2	852	88.3	<b>853</b>	<b>88.2</b>
444.namd	8	860	74.6	861	74.5	<b>861</b>	<b>74.5</b>	8	850	75.5	848	75.6	<b>849</b>	<b>75.6</b>
447.dealII	8	<b>675</b>	<b>135</b>	688	133	674	136	8	<b>675</b>	<b>135</b>	688	133	674	136
450.soplex	8	<b>763</b>	<b>87.5</b>	763	87.5	763	87.5	8	741	90.0	742	89.9	<b>742</b>	<b>89.9</b>
453.povray	8	362	118	<b>360</b>	<b>118</b>	359	118	8	290	147	<b>290</b>	<b>147</b>	290	147
454.calculix	8	531	124	532	124	<b>531</b>	<b>124</b>	8	531	124	532	124	<b>531</b>	<b>124</b>
459.GemsFDTD	8	1054	80.5	1057	80.3	<b>1057</b>	<b>80.3</b>	8	1054	80.5	1057	80.3	<b>1057</b>	<b>80.3</b>
465.tonto	8	<b>731</b>	<b>108</b>	728	108	731	108	8	718	110	719	109	<b>718</b>	<b>110</b>
470.lbm	8	<b>1094</b>	<b>100</b>	1094	100	1095	100	8	597	184	<b>598</b>	<b>184</b>	598	184
481.wrf	8	641	139	642	139	<b>642</b>	<b>139</b>	8	641	139	642	139	<b>642</b>	<b>139</b>
482.sphinx3	8	1408	111	1400	111	<b>1403</b>	<b>111</b>	8	1390	112	<b>1392</b>	<b>112</b>	1397	112

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The config file option 'submit' was used.  
 '/usr/bin/numactl' used to bind processes to CPUs

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
 Large pages were disabled for this run



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECfp\_rate2006 = 112**

**BladeSymphony BS2000 (Intel Xeon E5603)**

**SPECfp\_rate\_base2006 = 107**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Apr-2011

**Hardware Availability:** Feb-2011

**Software Availability:** Jan-2011

## Platform Notes

BIOS Settings:  
Data Reuse Optimization = Disabled

## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECfp\_rate2006 = 112**

**BladeSymphony BS2000 (Intel Xeon E5603)**

**SPECfp\_rate\_base2006 = 107**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Apr-2011

**Hardware Availability:** Feb-2011

**Software Availability:** Jan-2011

## Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m64`

482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m64`

450.soplex: `icpc -m32`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

## 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`  
 470.lbm: `-DSPEC_CPU_LP64`  
 481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECfp\_rate2006 = 112**

**BladeSymphony BS2000 (Intel Xeon E5603)**

**SPECfp\_rate\_base2006 = 107**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Apr-2011

**Hardware Availability:** Feb-2011

**Software Availability:** Jan-2011

## Peak Optimization Flags

### C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-ansi-alias -opt-prefetch -static -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2

### C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias  
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -auto -inline-calloc -opt-malloc-options=3

### Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECfp\_rate2006 = 112**

**BladeSymphony BS2000 (Intel Xeon E5603)**

**SPECfp\_rate\_base2006 = 107**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Apr-2011

**Hardware Availability:** Feb-2011

**Software Availability:** Jan-2011

## Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/PlatformHitachi.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/PlatformHitachi.xml>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 17:57:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 7 June 2011.