



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECfp®2006 = **94.0**

BladeSymphony BS2000 (Intel Xeon E5-2690)

SPECfp\_base2006 = **88.8**

CPU2006 license: 35

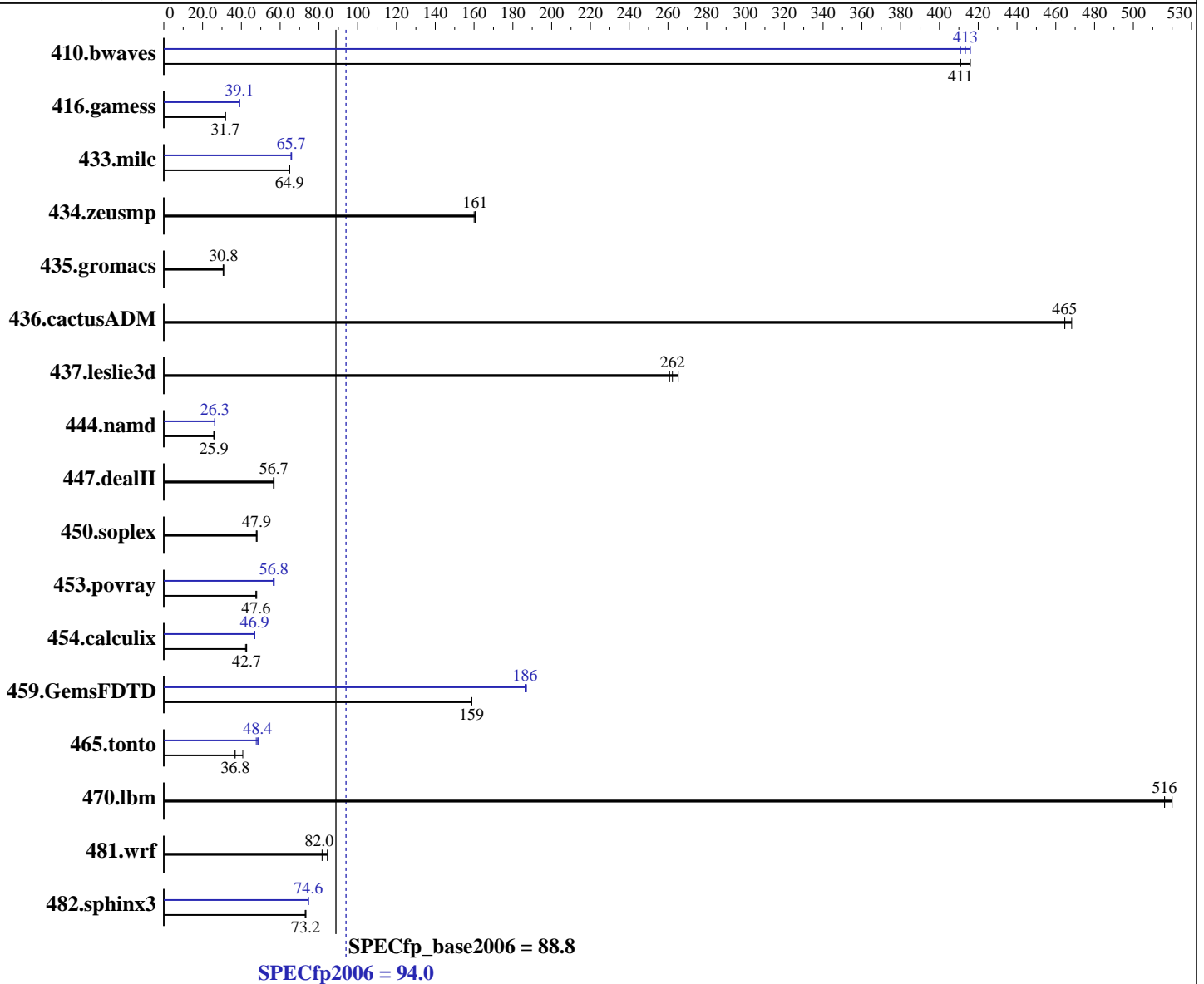
Test date: Jul-2012

Test sponsor: HITACHI

Hardware Availability: Aug-2012

Tested by: HITACHI

Software Availability: Feb-2012



Hardware	
CPU Name:	Intel Xeon E5-2690
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2900
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 2 threads/core
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

Software	
Operating System:	Red Hat Enterprise Linux Server release 6.2, Kernel 2.6.32-220.4.2.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)

Continued on next page

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECfp2006 = **94.0**

BladeSymphony BS2000 (Intel Xeon E5-2690)

SPECfp\_base2006 = **88.8**

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jul-2012

Hardware Availability: Aug-2012

Software Availability: Feb-2012

L3 Cache: 20 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (16 x 8 GB 2Rx4 PC3L-10600R-9, ECC)  
Disk Subsystem: 2 x 300 GB SAS, 10000 RPM RAID1 configuration  
Other Hardware: None

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	32.7	416	<b><u>33.1</u></b>	<b><u>411</u></b>	33.1	411	32.7	416	33.1	411	<b><u>32.9</u></b>	<b><u>413</u></b>
416.gamess	620	31.6	<b><u>617</u></b>	<b><u>31.7</u></b>	616	31.8	<b><u>501</u></b>	<b><u>39.1</u></b>	503	38.9	501	39.1
433.milc	141	64.9	<b><u>141</u></b>	<b><u>64.9</u></b>	141	64.9	<b><u>140</u></b>	<b><u>65.7</u></b>	140	65.6	139	65.9
434.zeusmp	56.9	160	56.7	161	<b><u>56.7</u></b>	<b><u>161</u></b>	56.9	160	56.7	161	<b><u>56.7</u></b>	<b><u>161</u></b>
435.gromacs	<b><u>232</u></b>	<b><u>30.8</u></b>	233	30.6	231	30.9	<b><u>232</u></b>	<b><u>30.8</u></b>	233	30.6	231	30.9
436.cactusADM	<b><u>25.7</u></b>	<b><u>465</u></b>	25.5	468	25.7	465	<b><u>25.7</u></b>	<b><u>465</u></b>	25.5	468	25.7	465
437.leslie3d	35.4	265	36.0	261	<b><u>35.8</u></b>	<b><u>262</u></b>	35.4	265	36.0	261	<b><u>35.8</u></b>	<b><u>262</u></b>
444.namd	<b><u>310</u></b>	<b><u>25.9</u></b>	310	25.8	310	25.9	305	26.3	<b><u>305</u></b>	<b><u>26.3</u></b>	305	26.3
447.dealII	202	56.6	<b><u>202</u></b>	<b><u>56.7</u></b>	201	56.9	202	56.6	<b><u>202</u></b>	<b><u>56.7</u></b>	201	56.9
450.soplex	173	48.1	<b><u>174</u></b>	<b><u>47.9</u></b>	175	47.7	173	48.1	<b><u>174</u></b>	<b><u>47.9</u></b>	175	47.7
453.povray	112	47.5	<b><u>112</u></b>	<b><u>47.6</u></b>	111	47.9	93.4	56.9	<b><u>93.7</u></b>	<b><u>56.8</u></b>	94.2	56.5
454.calculix	<b><u>193</u></b>	<b><u>42.7</u></b>	196	42.2	193	42.7	<b><u>176</u></b>	<b><u>46.9</u></b>	177	46.6	176	47.0
459.GemsFDTD	<b><u>66.8</u></b>	<b><u>159</u></b>	66.8	159	66.8	159	56.9	186	56.7	187	<b><u>56.9</u></b>	<b><u>186</u></b>
465.tonto	<b><u>267</u></b>	<b><u>36.8</u></b>	269	36.5	242	40.7	206	47.7	<b><u>203</u></b>	<b><u>48.4</u></b>	202	48.6
470.lbm	<b><u>26.6</u></b>	<b><u>516</u></b>	26.6	516	26.4	520	<b><u>26.6</u></b>	<b><u>516</u></b>	26.6	516	26.4	520
481.wrf	<b><u>136</u></b>	<b><u>82.0</u></b>	137	81.6	132	84.3	<b><u>136</u></b>	<b><u>82.0</u></b>	137	81.6	132	84.3
482.sphinx3	<b><u>266</u></b>	<b><u>73.2</u></b>	266	73.2	267	72.9	262	74.4	261	74.6	<b><u>261</u></b>	<b><u>74.6</u></b>

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

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS Settings:

Adjacent Cache Line Prefetch = Enabled

Sysinfo program /home/cpu2006/config/sysinfo.rev6800

\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3

running on localhost.localdomain Thu Jul 12 09:16:12 2012

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

**SPECfp2006 = 94.0**

**BladeSymphony BS2000 (Intel Xeon E5-2690)**

**SPECfp\_base2006 = 88.8**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jul-2012

**Hardware Availability:** Aug-2012

**Software Availability:** Feb-2012

### Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2690 0 @ 2.90GHz
 2 "physical id"s (chips)
32 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
  cpu cores : 8
  siblings  : 16
  physical 0: cores 0 1 2 3 4 5 6 7
  physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB

```

```

From /proc/meminfo
MemTotal:      132147320 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.2 (Santiago)

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

```

uname -a:
Linux localhost.localdomain 2.6.32-220.4.2.el6.x86_64 #1 SMP Mon Feb 6
16:39:28 EST 2012 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jul 12 08:18

(End of data from sysinfo program)

### General Notes

Environment variables set by runspec before the start of the run:

```

KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"
OMP_NUM_THREADS = "16"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5  
Transparent Huge Pages disabled with:  
echo never > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

HITACHI BladeSymphony BS2000 and HITACHI Compute Blade 2000 are electronically equivalent. The results have been measured on a HITACHI BladeSymphony BS2000.



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECfp2006 = 94.0

BladeSymphony BS2000 (Intel Xeon E5-2690)

SPECfp\_base2006 = 88.8

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jul-2012

Hardware Availability: Aug-2012

Software Availability: Feb-2012

## 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:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECfp2006 = 94.0**

**BladeSymphony BS2000 (Intel Xeon E5-2690)**

**SPECfp\_base2006 = 88.8**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jul-2012

**Hardware Availability:** Aug-2012

**Software Availability:** Feb-2012

## Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

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

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias  
-parallel

C++ benchmarks:

444.namd: -xAVX(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.dealIII: basepeak = yes

450.soplex: basepeak = yes

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

Fortran benchmarks:

410.bwaves: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel  
-static

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

**SPECfp2006 = 94.0**

BladeSymphony BS2000 (Intel Xeon E5-2690)

**SPECfp\_base2006 = 88.8**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jul-2012

**Hardware Availability:** Aug-2012

**Software Availability:** Feb-2012

## Peak Optimization Flags (Continued)

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -opt-prefetch -parallel

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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

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-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

<http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.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 v1.2.  
Report generated on Thu Jul 24 10:43:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 29 August 2012.