# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

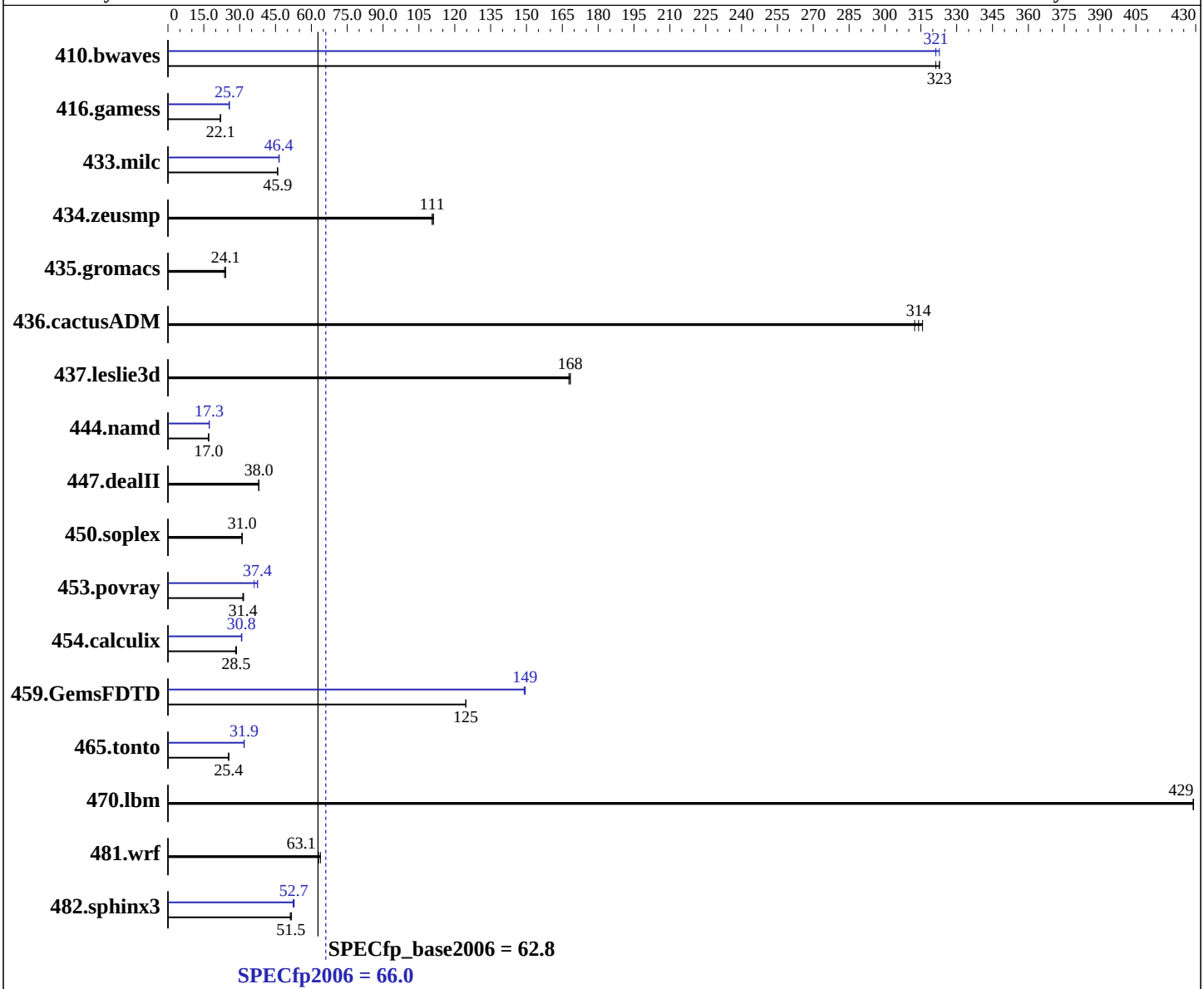
BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp®2006 = 66.0

SPECfp_base2006 = 62.8

**CPU2006 license:** 35
**Test sponsor:** HITACHI
**Tested by:** HITACHI

**Test date:** May-2012
**Hardware Availability:** Apr-2012
**Software Availability:** Feb-2012




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-2630L |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.50 GHz |
| CPU MHz: | 2000 |
| FPU: | Integrated |
| CPU(s) enabled: | 12 cores, 2 chips, 6 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 |

Continued on next page

### 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;<br>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

# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp2006 = 66.0

SPECfp_base2006 = 62.8

**CPU2006 license:** 35
**Test sponsor:** HITACHI
**Tested by:** HITACHI

**Test date:** May-2012
**Hardware Availability:** Apr-2012
**Software Availability:** Feb-2012

L3 Cache: 15 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 | 42.3 | 321 | 42.1 | 323 | **42.1** | **323** | **42.3** | **321** | 42.1 | 323 | 42.3 | 321 |
| 416.gamess | 896 | 21.9 | **887** | **22.1** | 886 | 22.1 | **763** | **25.7** | 763 | 25.7 | 764 | 25.6 |
| 433.milc | **200** | **45.9** | 201 | 45.8 | 200 | 45.9 | **198** | **46.4** | 198 | 46.4 | 197 | 46.6 |
| 434.zeusmp | **82.3** | **111** | 82.3 | 111 | 81.9 | 111 | **82.3** | **111** | 82.3 | 111 | 81.9 | 111 |
| 435.gromacs | 301 | 23.7 | 296 | 24.1 | **296** | **24.1** | 301 | 23.7 | 296 | 24.1 | **296** | **24.1** |
| 436.cactusADM | 37.8 | 316 | **38.0** | **314** | 38.2 | 312 | 37.8 | 316 | **38.0** | **314** | 38.2 | 312 |
| 437.leslie3d | 56.0 | 168 | 55.8 | 168 | **55.8** | **168** | 56.0 | 168 | 55.8 | 168 | **55.8** | **168** |
| 444.namd | 472 | 17.0 | **472** | **17.0** | 471 | 17.0 | **464** | **17.3** | 465 | 17.3 | 464 | 17.3 |
| 447.dealII | 302 | 37.9 | 300 | 38.1 | **301** | **38.0** | 302 | 37.9 | 300 | 38.1 | **301** | **38.0** |
| 450.soplex | **269** | **31.0** | 269 | 31.0 | 269 | 31.0 | **269** | **31.0** | 269 | 31.0 | 269 | 31.0 |
| 453.povray | **169** | **31.4** | 168 | 31.7 | 170 | 31.4 | **142** | **37.4** | 142 | 37.5 | 147 | 36.1 |
| 454.calculix | 291 | 28.3 | **289** | **28.5** | 288 | 28.7 | **268** | **30.8** | 268 | 30.7 | 267 | 30.9 |
| 459.GemsFDTD | 85.1 | 125 | 85.1 | 125 | **85.1** | **125** | **71.0** | **149** | 71.2 | 149 | 71.0 | 149 |
| 465.tonto | **387** | **25.4** | 388 | 25.3 | 387 | 25.4 | 309 | 31.8 | 308 | 31.9 | **309** | **31.9** |
| 470.lbm | 32.0 | 429 | **32.0** | **429** | 32.0 | 429 | 32.0 | 429 | **32.0** | **429** | 32.0 | 429 |
| 481.wrf | 178 | 62.8 | 175 | 63.8 | **177** | **63.1** | 178 | 62.8 | 175 | 63.8 | **177** | **63.1** |
| 482.sphinx3 | **379** | **51.5** | 381 | 51.2 | 377 | 51.7 | 369 | 52.8 | **370** | **52.7** | 372 | 52.4 |

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

```
Sysinfo program /home/cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Wed May 23 16:41:10 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

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2630L 0 @ 2.00GHz
```

Continued on next page

## Platform Notes (Continued)

```
        2 "physical id"s (chips)
        24 "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 : 6
        siblings  : 12
        physical 0: cores 0 1 2 3 4 5
        physical 1: cores 0 1 2 3 4 5
     cache size : 15360 KB

  From /proc/meminfo
     MemTotal:       132148312 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 May 23 16:33

  (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 = "12"

  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.
```

## 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

## 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.dealII: 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

## 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.

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 08:24:35 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 June 2012.