



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp[®]_rate2006 = 492

BladeSymphony BS520H (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 478

CPU2006 license: 35

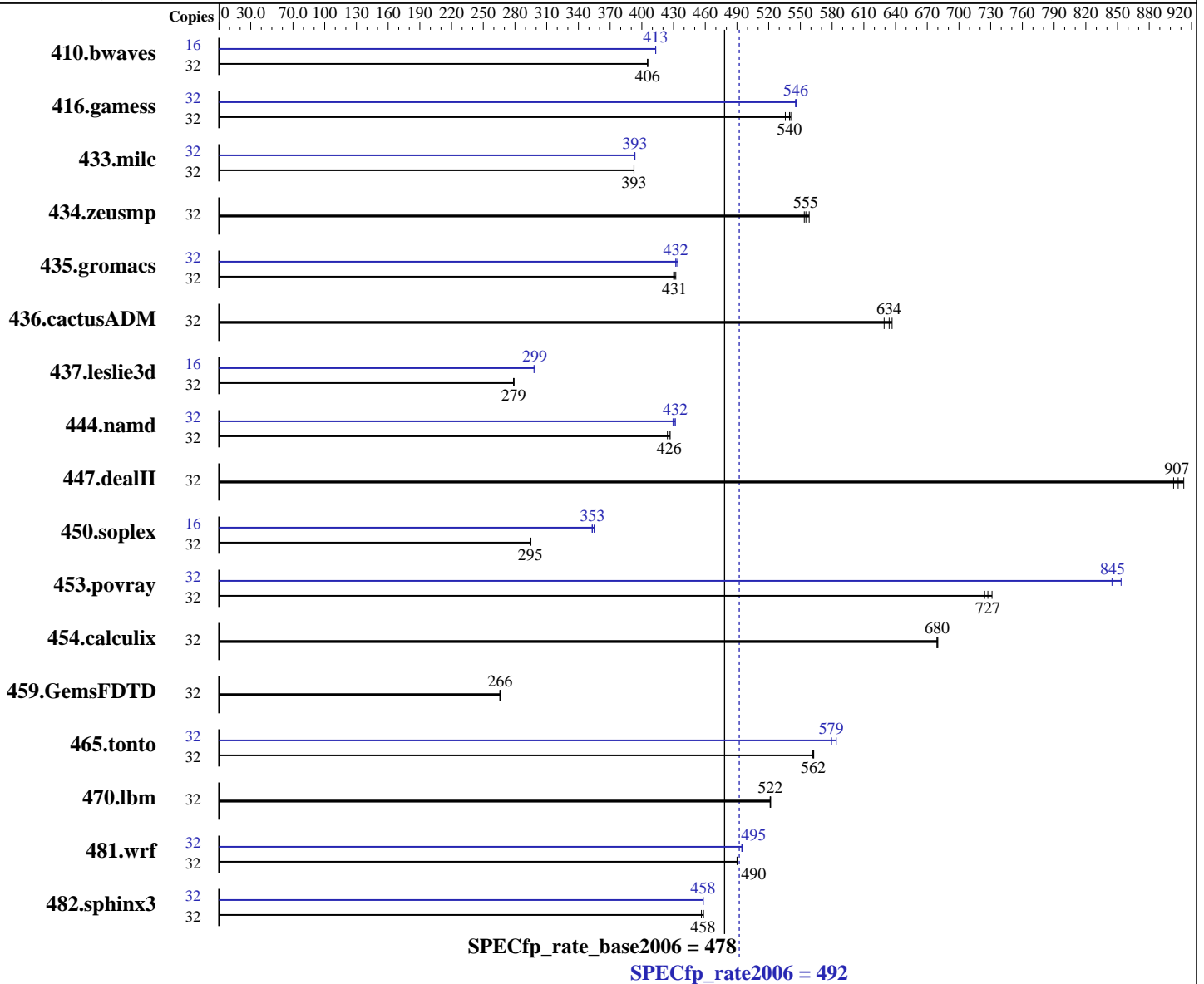
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2012

Hardware Availability: Apr-2012

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E5-2680
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2700
 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

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;
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
 Auto Parallel: No
 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

SPECfp_rate2006 = 492

BladeSymphony BS520H (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 478

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2012

Hardware Availability: Apr-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-12800R-11, ECC)
Disk Subsystem: 1 x 146 GB SAS, 15000 RPM
Other Hardware: None

Base Pointers: 32/64-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	32	1072	406	1073	405	<u>1072</u>	<u>406</u>	16	526	413	<u>526</u>	<u>413</u>	526	413
416.gamess	32	1158	541	1170	536	<u>1161</u>	<u>540</u>	32	1147	546	<u>1148</u>	<u>546</u>	1149	545
433.milc	32	<u>748</u>	<u>393</u>	748	393	748	393	32	747	393	<u>747</u>	<u>393</u>	747	393
434.zeusmp	32	526	554	522	558	<u>525</u>	<u>555</u>	32	526	554	522	558	<u>525</u>	<u>555</u>
435.gromacs	32	529	432	<u>530</u>	<u>431</u>	531	430	32	529	432	<u>529</u>	<u>432</u>	527	434
436.cactusADM	32	<u>603</u>	<u>634</u>	601	637	608	629	32	<u>603</u>	<u>634</u>	601	637	608	629
437.leslie3d	32	<u>1079</u>	<u>279</u>	1080	279	1078	279	16	505	298	<u>504</u>	<u>299</u>	503	299
444.namd	32	<u>602</u>	<u>426</u>	601	427	605	424	32	598	429	<u>595</u>	<u>432</u>	595	432
447.dealII	32	401	913	<u>403</u>	<u>907</u>	405	903	32	401	913	<u>403</u>	<u>907</u>	405	903
450.soplex	32	<u>906</u>	<u>295</u>	906	294	904	295	16	378	353	376	355	<u>378</u>	<u>353</u>
453.povray	32	233	731	<u>234</u>	<u>727</u>	235	724	32	<u>201</u>	<u>845</u>	202	845	199	853
454.calculix	32	<u>388</u>	<u>680</u>	389	679	388	680	32	<u>388</u>	<u>680</u>	389	679	388	680
459.GemsFDTD	32	1278	266	1277	266	<u>1277</u>	<u>266</u>	32	1278	266	1277	266	<u>1277</u>	<u>266</u>
465.tonto	32	<u>560</u>	<u>562</u>	560	563	561	562	32	544	579	<u>543</u>	<u>579</u>	539	584
470.lbm	32	843	521	842	522	<u>843</u>	<u>522</u>	32	843	521	842	522	<u>843</u>	<u>522</u>
481.wrf	32	<u>729</u>	<u>490</u>	729	490	729	490	32	723	495	722	495	<u>722</u>	<u>495</u>
482.sphinx3	32	1361	458	<u>1362</u>	<u>458</u>	1367	456	32	1362	458	1362	458	<u>1362</u>	<u>458</u>

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

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 Mar 14 08:51:13 2012

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 492

BladeSymphony BS520H (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 478

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2012

Hardware Availability: Apr-2012

Software Availability: Feb-2012

Platform Notes (Continued)

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 E5-2680 0 @ 2.70GHz
 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:      132137140 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 Mar 14 08:27

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Transparent Huge Pages enabled with:

```
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

Filesystem page cache cleared with:

```
echo 1 > /proc/sys/vm/drop_caches
```

runspec command invoked through numactl i.e.:

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

SPECfp_rate2006 = 492

BladeSymphony BS520H (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 478

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2012

Hardware Availability: Apr-2012

Software Availability: Feb-2012

General Notes (Continued)

numactl --interleave=all runspec <etc>

HITACHI BladeSymphony BS520H and HITACHI Compute Blade 520H are electronically equivalent. The results have been measured on a HITACHI BladeSymphony BS520H.

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 -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 492

BladeSymphony BS520H (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 478

CPU2006 license: 35

Test date: Mar-2012

Test sponsor: HITACHI

Hardware Availability: Apr-2012

Tested by: HITACHI

Software Availability: Feb-2012

Base Optimization Flags (Continued)

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 492

BladeSymphony BS520H (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 478

CPU2006 license: 35

Test date: Mar-2012

Test sponsor: HITACHI

Hardware Availability: Apr-2012

Tested by: HITACHI

Software Availability: Feb-2012

Peak Portability Flags (Continued)

481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

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
-opt-mem-layout-trans=3

470.lbm: basepeak = yes

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

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: -xAVX(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

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(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static

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

459.GemsFDTD: basepeak = yes

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 492

BladeSymphony BS520H (Intel Xeon E5-2680)

SPECfp_rate_base2006 = 478

CPU2006 license: 35

Test date: Mar-2012

Test sponsor: HITACHI

Hardware Availability: Apr-2012

Tested by: HITACHI

Software Availability: Feb-2012

Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-static -auto-ilp32 -opt-mem-layout-trans=3

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
-opt-mem-layout-trans=3

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 06:38:05 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 April 2012.