



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp®_rate2006 = 335

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp_rate_base2006 = 326

CPU2006 license: 35

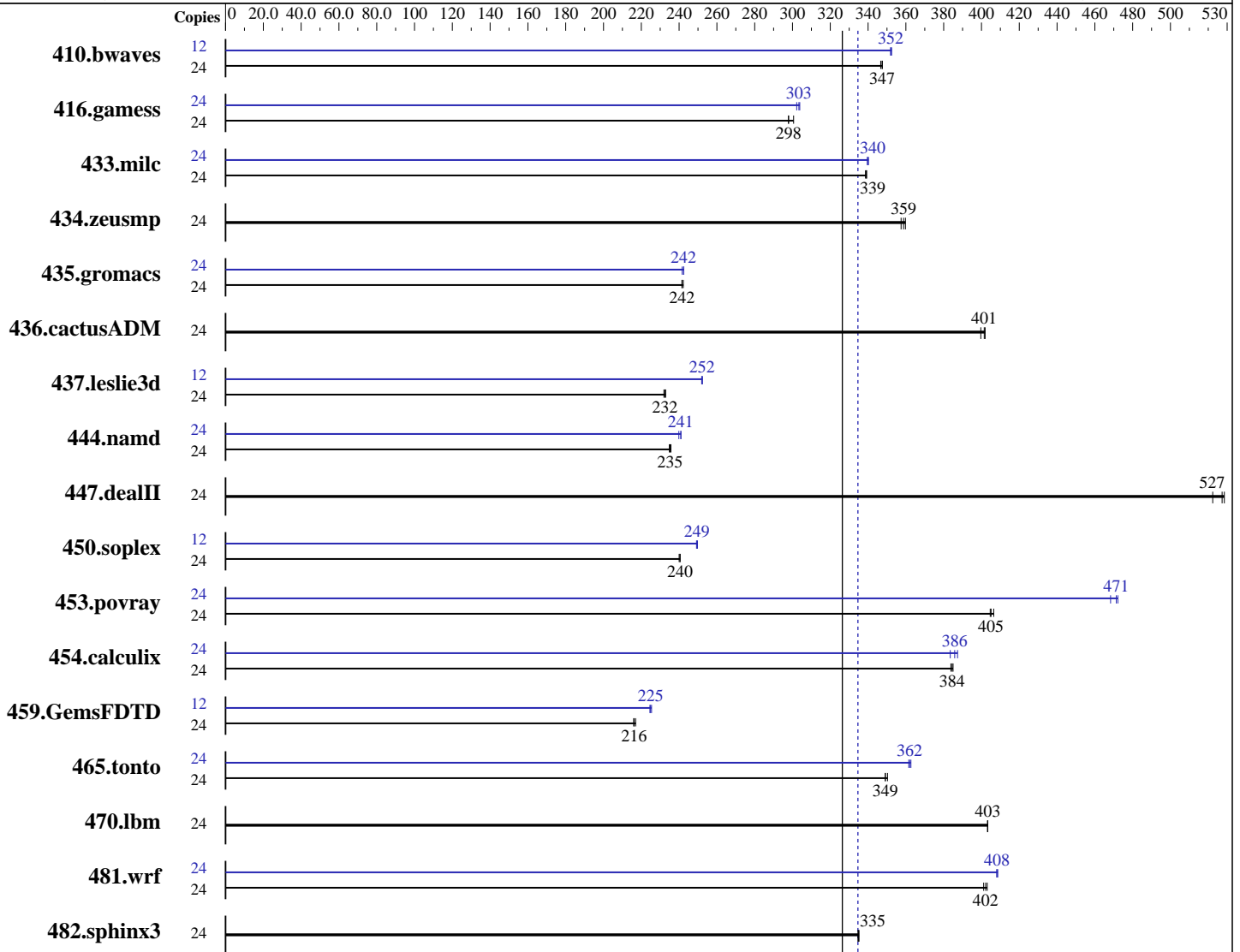
Test sponsor: HITACHI

Tested by: HITACHI

Test date: May-2012

Hardware Availability: Apr-2012

Software Availability: Feb-2012



SPECfp_rate_base2006 = 326

SPECfp_rate2006 = 335

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;
 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 = 335

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp_rate_base2006 = 326

CPU2006 license: 35

Test date: May-2012

Test sponsor: HITACHI

Hardware Availability: Apr-2012

Tested by: HITACHI

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: 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 | 24 | 941 | 347 | 938 | 348 | <u>939</u> | <u>347</u> | 12 | 463 | 352 | <u>463</u> | <u>352</u> | 463 | 352 |
| 416.gamess | 24 | <u>1577</u> | <u>298</u> | 1578 | 298 | 1563 | 301 | 24 | 1555 | 302 | <u>1549</u> | <u>303</u> | 1547 | 304 |
| 433.milc | 24 | 651 | 339 | 649 | 339 | <u>650</u> | <u>339</u> | 24 | <u>648</u> | <u>340</u> | 648 | 340 | 649 | 340 |
| 434.zeusmp | 24 | 611 | 357 | 607 | 360 | <u>609</u> | <u>359</u> | 24 | 611 | 357 | 607 | 360 | <u>609</u> | <u>359</u> |
| 435.gromacs | 24 | 707 | 242 | <u>709</u> | <u>242</u> | 709 | 242 | 24 | <u>707</u> | <u>242</u> | 709 | 242 | 707 | 242 |
| 436.cactusADM | 24 | 714 | 402 | 718 | 400 | <u>714</u> | <u>401</u> | 24 | 714 | 402 | 718 | 400 | <u>714</u> | <u>401</u> |
| 437.leslie3d | 24 | <u>970</u> | <u>232</u> | 973 | 232 | 969 | 233 | 12 | 448 | 252 | <u>447</u> | <u>252</u> | 447 | 252 |
| 444.namd | 24 | 817 | 236 | 820 | 235 | <u>818</u> | <u>235</u> | 24 | <u>799</u> | <u>241</u> | 799 | 241 | 802 | 240 |
| 447.dealII | 24 | 526 | 522 | 519 | 529 | <u>521</u> | <u>527</u> | 24 | 526 | 522 | 519 | 529 | <u>521</u> | <u>527</u> |
| 450.soplex | 24 | 832 | 241 | <u>832</u> | <u>240</u> | 834 | 240 | 12 | <u>401</u> | <u>249</u> | 401 | 250 | 402 | 249 |
| 453.povray | 24 | 314 | 406 | 316 | 405 | <u>315</u> | <u>405</u> | 24 | 273 | 468 | <u>271</u> | <u>471</u> | 270 | 472 |
| 454.calculix | 24 | <u>515</u> | <u>384</u> | 516 | 384 | 514 | 385 | 24 | <u>513</u> | <u>386</u> | 516 | 383 | 511 | 387 |
| 459.GemsFDTD | 24 | 1173 | 217 | 1179 | 216 | <u>1178</u> | <u>216</u> | 12 | 567 | 225 | <u>566</u> | <u>225</u> | 565 | 225 |
| 465.tonto | 24 | 674 | 350 | 677 | 349 | <u>676</u> | <u>349</u> | 24 | 653 | 362 | 651 | 363 | <u>652</u> | <u>362</u> |
| 470.lbm | 24 | 818 | 403 | <u>818</u> | <u>403</u> | 818 | 403 | 24 | 818 | 403 | <u>818</u> | <u>403</u> | 818 | 403 |
| 481.wrf | 24 | 665 | 403 | <u>667</u> | <u>402</u> | 668 | 401 | 24 | 657 | 408 | <u>657</u> | <u>408</u> | 656 | 409 |
| 482.sphinx3 | 24 | 1395 | 335 | <u>1396</u> | <u>335</u> | 1398 | 335 | 24 | 1395 | 335 | <u>1396</u> | <u>335</u> | 1398 | 335 |

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 Fri May 25 15:39:20 2012

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 335

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp_rate_base2006 = 326

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: May-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 E5-2630L 0 @ 2.00GHz
 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 25 15:08

(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/>

Page 3



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 335

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp_rate_base2006 = 326

CPU2006 license: 35

Test date: May-2012

Test sponsor: HITACHI

Hardware Availability: Apr-2012

Tested by: HITACHI

Software Availability: Feb-2012

General Notes (Continued)

numactl --interleave=all runspec <etc>

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 -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 = 335

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp_rate_base2006 = 326

CPU2006 license: 35

Test date: May-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:

`icc -m64`

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.deallI: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
454.calculix: `-DSPEC_CPU_LP64 -nofor_main`
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`



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 335

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp_rate_base2006 = 326

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: May-2012

Hardware Availability: Apr-2012

Software Availability: Feb-2012

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: basepeak = yes

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: -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

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

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp_rate2006 = 335

BladeSymphony BS2000 (Intel Xeon E5-2630L)

SPECfp_rate_base2006 = 326

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: May-2012

Hardware Availability: Apr-2012

Software Availability: Feb-2012

Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

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

481.wrf: Same as 454.calculix

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 08:25:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 19 June 2012.

Standard Performance Evaluation Corporation

info@spec.org

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

Page 7