SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

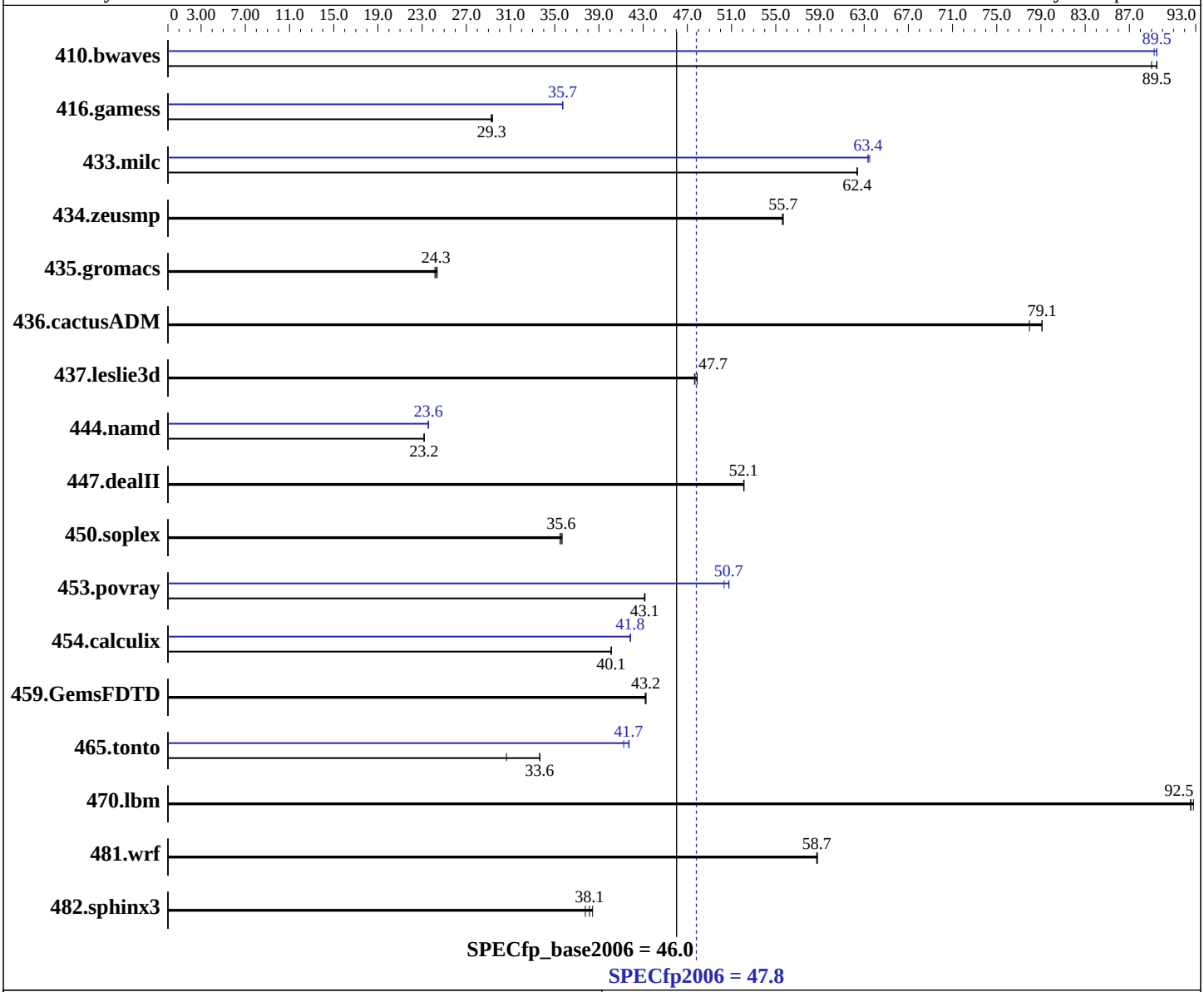
HA8000-bd (Intel Xeon E3-1220L)

SPECfp®2006 = 47.8

SPECfp_base2006 = 46.0

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

Test date: Dec-2011
Hardware Availability: Feb-2012
Software Availability: Sep-2011



Hardware

CPU Name:	Intel Xeon E3-1220L
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
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 6.1, Kernel 2.6.32-131.0.15.el6.x86_64
Compiler:	C/C++/Fortran: Version 12.1.0.225 of Intel Compiler XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

HA8000-bd (Intel Xeon E3-1220L)

SPECfp2006 = 47.8

SPECfp_base2006 = 46.0

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

Test date: Dec-2011
Hardware Availability: Feb-2012
Software Availability: Sep-2011

L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem: 1 x 250 GB SATA2, 7200 RPM
Other Hardware: None

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	153	89.0	152	89.5	**152**	**89.5**	152	89.5	**152**	**89.5**	152	89.2
416.gamess	667	29.4	**668**	**29.3**	669	29.3	**548**	**35.7**	548	35.7	548	35.7
433.milc	147	62.4	**147**	**62.4**	147	62.4	**145**	**63.4**	145	63.5	145	63.4
434.zeusmp	164	55.6	163	55.7	**163**	**55.7**	164	55.6	163	55.7	**163**	**55.7**
435.gromacs	293	24.4	**294**	**24.3**	296	24.2	293	24.4	**294**	**24.3**	296	24.2
436.cactusADM	151	79.1	**151**	**79.1**	153	78.0	151	79.1	**151**	**79.1**	153	78.0
437.leslie3d	197	47.6	**197**	**47.7**	196	47.9	197	47.6	**197**	**47.7**	196	47.9
444.namd	**346**	**23.2**	346	23.2	346	23.2	341	23.6	**340**	**23.6**	340	23.6
447.dealII	220	52.1	219	52.1	**220**	**52.1**	220	52.1	219	52.1	**220**	**52.1**
450.soplex	234	35.7	235	35.5	**234**	**35.6**	234	35.7	235	35.5	**234**	**35.6**
453.povray	123	43.1	123	43.2	**123**	**43.1**	105	50.8	106	50.3	**105**	**50.7**
454.calculix	206	40.1	206	40.1	**206**	**40.1**	197	41.8	**197**	**41.8**	197	41.9
459.GemsFDTD	245	43.3	**245**	**43.2**	246	43.2	245	43.3	**245**	**43.2**	246	43.2
465.tonto	292	33.7	**293**	**33.6**	321	30.6	239	41.2	**236**	**41.7**	236	41.7
470.lbm	148	92.8	**148**	**92.5**	148	92.5	148	92.8	**148**	**92.5**	148	92.5
481.wrf	**190**	**58.7**	190	58.8	190	58.7	**190**	**58.7**	190	58.8	190	58.7
482.sphinx3	507	38.4	516	37.8	**511**	**38.1**	507	38.4	516	37.8	**511**	**38.1**

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"
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"
OMP_NUM_THREADS = "2"

 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
```

Continued on next page

General Notes (Continued)

```
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

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
```

Continued on next page

Base Optimization Flags (Continued)

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: 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

Continued on next page

Peak Optimization Flags (Continued)

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

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: 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) -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 02:15:33 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 5 March 2012.