



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp®2006 = 73.1

HA8000-bd (Intel Xeon E3-1275L v3)

SPECfp_base2006 = 71.2

CPU2006 license: 35

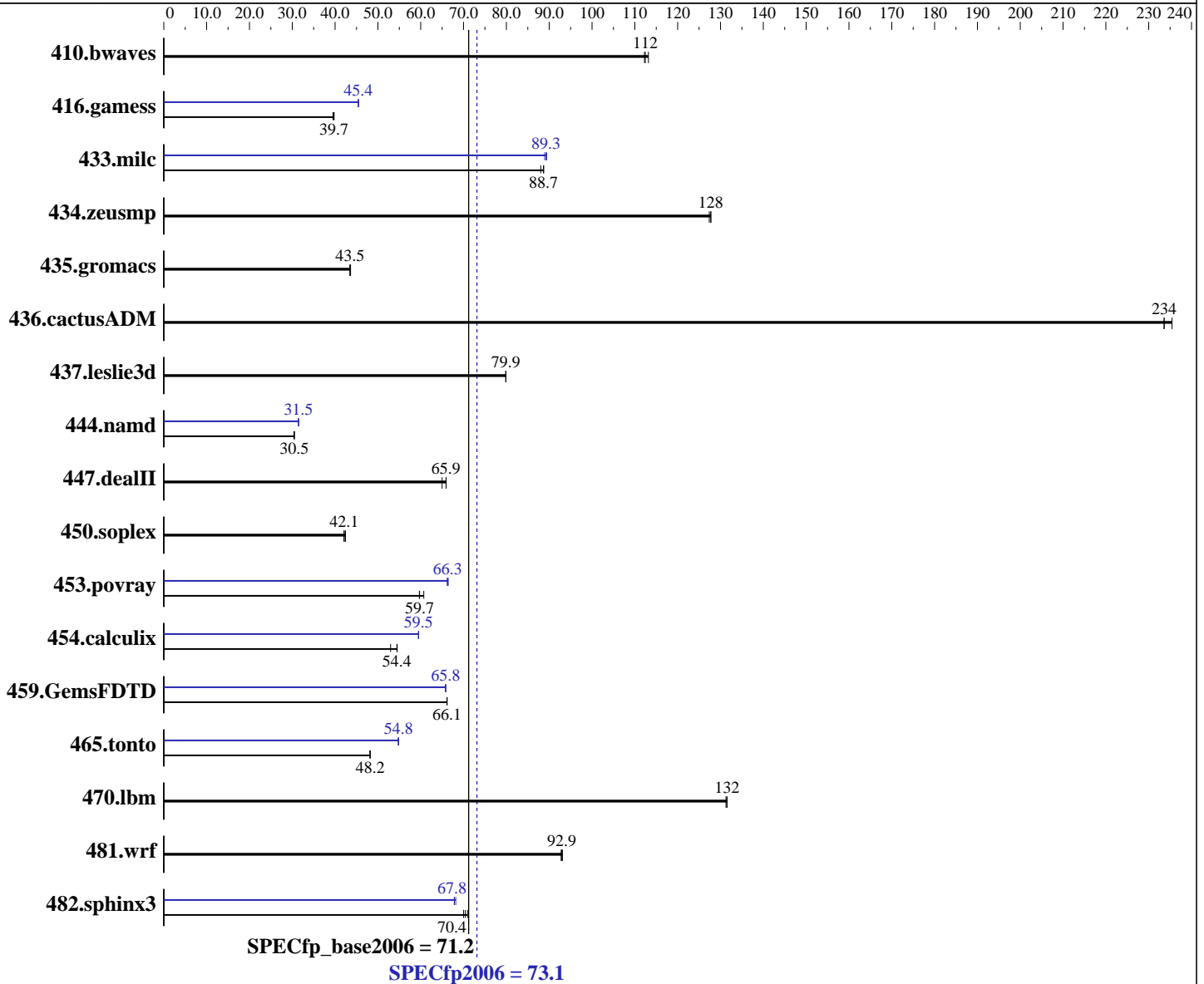
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Sep-2014

Hardware Availability: Oct-2014

Software Availability: Feb-2013



Hardware

CPU Name: Intel Xeon E3-1275L v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 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 6.4 (Santiago)
 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp2006 = **73.1**

HA8000-bd (Intel Xeon E3-1275L v3)

SPECfp_base2006 = **71.2**

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Sep-2014

Hardware Availability: Oct-2014

Software Availability: Feb-2013

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (4 x 8 GB 2Rx8 PC3-12800E-11, ECC)
Disk Subsystem: 3 x 1000 GB SATA, 7200RPM
Other Hardware: None

System State: Run level 3 (multi-user)
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	121	112	120	113	<u>121</u>	<u>112</u>	121	112	120	113	<u>121</u>	<u>112</u>
416.gamess	496	39.5	493	39.7	<u>493</u>	<u>39.7</u>	431	45.5	<u>431</u>	<u>45.4</u>	431	45.4
433.milc	<u>104</u>	<u>88.7</u>	104	88.0	103	88.7	103	88.9	<u>103</u>	<u>89.3</u>	103	89.4
434.zeusmp	71.4	127	<u>71.2</u>	<u>128</u>	71.2	128	71.4	127	<u>71.2</u>	<u>128</u>	71.2	128
435.gromacs	164	43.5	164	43.6	<u>164</u>	<u>43.5</u>	164	43.5	164	43.6	<u>164</u>	<u>43.5</u>
436.cactusADM	51.2	234	50.8	235	<u>51.2</u>	<u>234</u>	51.2	234	50.8	235	<u>51.2</u>	<u>234</u>
437.leslie3d	118	79.9	<u>118</u>	<u>79.9</u>	118	79.9	118	79.9	<u>118</u>	<u>79.9</u>	118	79.9
444.namd	263	30.5	263	30.5	<u>263</u>	<u>30.5</u>	255	31.5	<u>255</u>	<u>31.5</u>	255	31.5
447.dealII	<u>174</u>	<u>65.9</u>	173	65.9	176	65.0	<u>174</u>	<u>65.9</u>	173	65.9	176	65.0
450.soplex	198	42.1	<u>198</u>	<u>42.1</u>	197	42.4	198	42.1	<u>198</u>	<u>42.1</u>	197	42.4
453.povray	<u>89.1</u>	<u>59.7</u>	89.1	59.7	87.6	60.7	80.4	66.2	80.1	66.4	<u>80.2</u>	<u>66.3</u>
454.calculix	<u>152</u>	<u>54.4</u>	151	54.5	156	53.0	139	59.5	139	59.5	<u>139</u>	<u>59.5</u>
459.GemsFDTD	160	66.1	160	66.1	<u>160</u>	<u>66.1</u>	161	65.8	<u>161</u>	<u>65.8</u>	161	65.8
465.tonto	204	48.2	205	48.1	<u>204</u>	<u>48.2</u>	179	54.9	180	54.7	<u>179</u>	<u>54.8</u>
470.lbm	105	131	104	132	<u>104</u>	<u>132</u>	105	131	104	132	<u>104</u>	<u>132</u>
481.wrf	<u>120</u>	<u>92.9</u>	120	93.1	120	92.8	<u>120</u>	<u>92.9</u>	120	93.1	120	92.8
482.sphinx3	<u>277</u>	<u>70.4</u>	278	70.0	275	70.9	287	67.8	<u>287</u>	<u>67.8</u>	286	68.2

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/cpu2006/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Wed Sep 10 05:12:43 2014

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 E3-1275L v3 @ 2.70GHz
Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp2006 = 73.1

HA8000-bd (Intel Xeon E3-1275L v3)

SPECfp_base2006 = 71.2

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Sep-2014

Hardware Availability: Oct-2014

Software Availability: Feb-2013

Platform Notes (Continued)

```

1 "physical id"s (chips)
8 "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 : 4
  siblings  : 8
  physical 0: cores 0 1 2 3
cache size : 8192 KB

From /proc/meminfo
MemTotal:      32958224 kB
HugePages_Total:    0
Hugepagesize:   2048 kB

/usr/bin/lsb_release -d
  Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
Linux localhost.localdomain 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41
EST 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Sep 8 19:58

SPEC is set to: /home/cpu2006/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_home
                ext4      172G  22G  142G  14% /home

Additional information from dmidecode:
BIOS American Megatrends Inc. P2_03 09/04/2014
Memory:
4x      8 GB
4x 1323 SMD3L-N8G28HA-16K 8 GB 1600 MHz 2 rank

(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/cpu2006/libs/32:/home/cpu2006/cpu2006/libs/64:/home/cpu2006/cpu2006/sh"
OMP_NUM_THREADS = "4"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp2006 = 73.1

HA8000-bd (Intel Xeon E3-1275L v3)

SPECfp_base2006 = 71.2

CPU2006 license: 35

Test date: Sep-2014

Test sponsor: HITACHI

Hardware Availability: Oct-2014

Tested by: HITACHI

Software Availability: Feb-2013

General Notes (Continued)

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
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:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp2006 = 73.1

HA8000-bd (Intel Xeon E3-1275L v3)

SPECfp_base2006 = 71.2

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Sep-2014

Hardware Availability: Oct-2014

Software Availability: Feb-2013

Base Optimization Flags (Continued)

C++ benchmarks:

`-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xCORE-AVX2 -ipo -O3 -no-prec-div -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: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32 -ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel`

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp2006 = 73.1

HA8000-bd (Intel Xeon E3-1275L v3)

SPECfp_base2006 = 71.2

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Sep-2014

Hardware Availability: Oct-2014

Software Availability: Feb-2013

Peak Optimization Flags (Continued)

444.namd: -xCORE-AVX2(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: -xCORE-AVX2(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: basepeak = yes

416.gamess: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -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-ic14.0-official-linux64-revC.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-ic14.0-official-linux64-revC.xml>

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECfp2006 = 73.1

HA8000-bd (Intel Xeon E3-1275L v3)

SPECfp_base2006 = 71.2

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Sep-2014

Hardware Availability: Oct-2014

Software Availability: Feb-2013

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 Tue Dec 16 13:09:33 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 16 December 2014.