



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4870 v2, 2.30 GHz)

SPECfp®2006 = **71.5**

SPECfp_base2006 = **68.6**

CPU2006 license: 9019

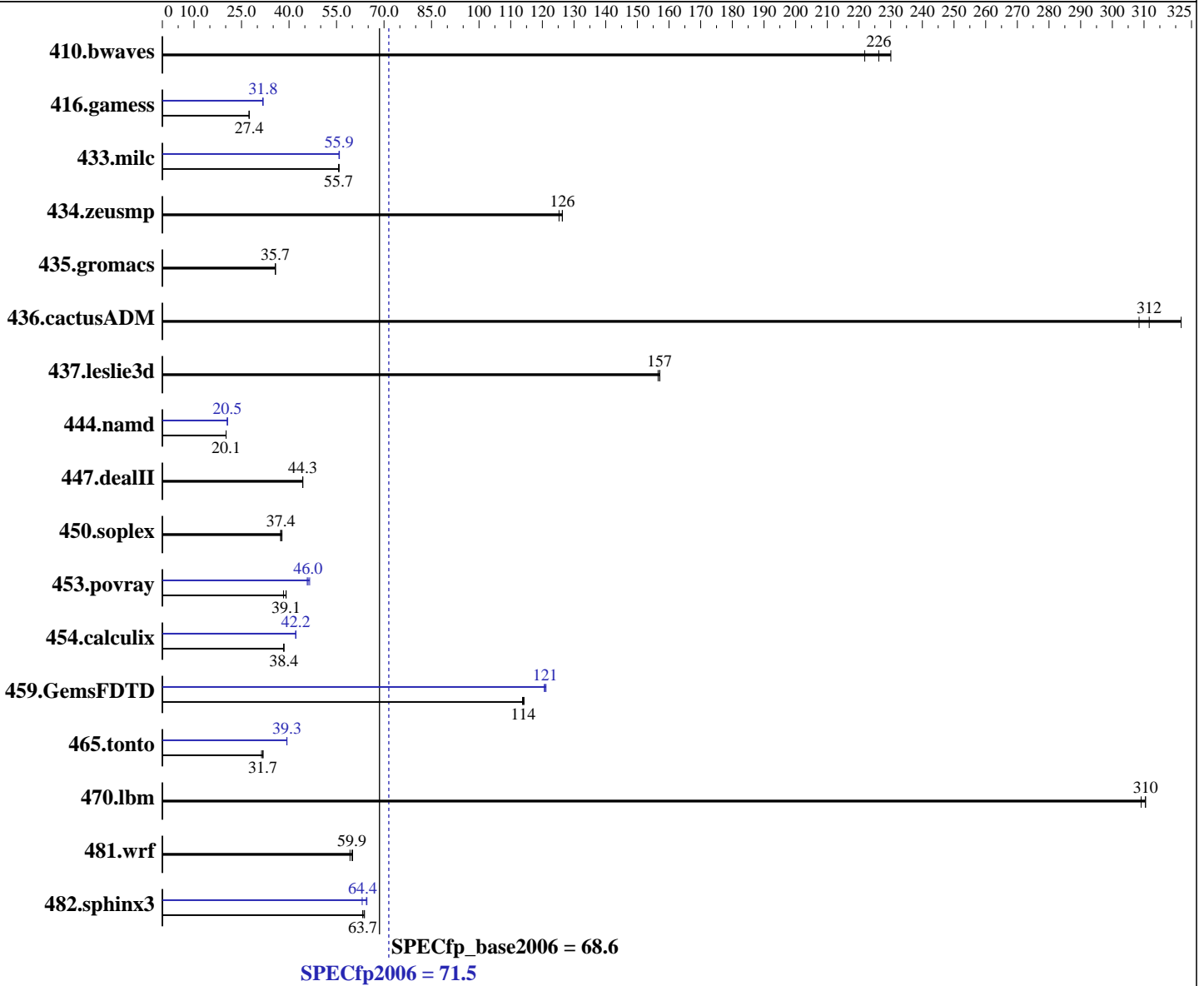
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E7-4870 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 30 cores, 2 chips, 15 cores/chip
 CPU(s) orderable: 1,2 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 6.5 (Santiago)
 2.6.32-431.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

Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4870 v2, 2.30 GHz)

SPECfp2006 = **71.5**

SPECfp_base2006 = **68.6**

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Sep-2013

L3 Cache: 30 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (32 x 8 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem: 1 X 300 GB 15000 RPM SAS
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	<u>60.1</u>	<u>226</u>	61.3	222	59.1	230	<u>60.1</u>	<u>226</u>	61.3	222	59.1	230
416.gamess	<u>714</u>	<u>27.4</u>	714	27.4	715	27.4	616	31.8	618	31.7	<u>616</u>	<u>31.8</u>
433.milc	164	55.8	165	55.7	<u>165</u>	<u>55.7</u>	<u>164</u>	<u>55.9</u>	165	55.8	164	55.9
434.zeusmp	72.6	125	72.0	126	<u>72.0</u>	<u>126</u>	72.6	125	72.0	126	<u>72.0</u>	<u>126</u>
435.gromacs	200	35.7	<u>200</u>	<u>35.7</u>	200	35.6	200	35.7	<u>200</u>	<u>35.7</u>	200	35.6
436.cactusADM	38.7	308	37.1	322	<u>38.3</u>	<u>312</u>	38.7	308	37.1	322	<u>38.3</u>	<u>312</u>
437.leslie3d	60.0	157	59.8	157	<u>59.8</u>	<u>157</u>	60.0	157	59.8	157	<u>59.8</u>	<u>157</u>
444.namd	399	20.1	398	20.1	<u>399</u>	<u>20.1</u>	391	20.5	390	20.5	<u>390</u>	<u>20.5</u>
447.dealII	<u>258</u>	<u>44.3</u>	258	44.3	258	44.3	<u>258</u>	<u>44.3</u>	258	44.3	258	44.3
450.soplex	223	37.4	<u>223</u>	<u>37.4</u>	221	37.8	223	37.4	<u>223</u>	<u>37.4</u>	221	37.8
453.povray	139	38.3	136	39.1	<u>136</u>	<u>39.1</u>	<u>116</u>	<u>46.0</u>	116	45.7	114	46.5
454.calculix	215	38.3	215	38.4	<u>215</u>	<u>38.4</u>	<u>196</u>	<u>42.2</u>	196	42.2	196	42.1
459.GemsFDTD	93.3	114	<u>93.1</u>	<u>114</u>	92.9	114	87.6	121	88.0	121	<u>87.8</u>	<u>121</u>
465.tonto	309	31.8	314	31.3	<u>310</u>	<u>31.7</u>	<u>250</u>	<u>39.3</u>	250	39.3	250	39.3
470.lbm	44.3	310	<u>44.3</u>	<u>310</u>	44.5	309	44.3	310	<u>44.3</u>	<u>310</u>	44.5	309
481.wrf	189	59.3	186	60.1	<u>187</u>	<u>59.9</u>	189	59.3	186	60.1	<u>187</u>	<u>59.9</u>
482.sphinx3	305	63.8	<u>306</u>	<u>63.7</u>	308	63.3	309	63.1	<u>302</u>	<u>64.4</u>	302	64.6

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

Intel HT Technology = Enabled
CPU performance set to HPC
Power Technology set to Custom
CPU Power State C6 set to Disabled
CPU Power State C1 Enhanced set to Disabled
Memory RAS configuration set to Maximum Performance
DRAM Clock Throttling Set to Performance
Sysinfo program /opt/cpu2006-1.4/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on yos Wed Apr 16 05:35:39 2014

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4870 v2, 2.30 GHz)

SPECfp2006 = 71.5

SPECfp_base2006 = 68.6

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Sep-2013

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 E7-4870 v2 @ 2.30GHz
 2 "physical id"s (chips)
 30 "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    : 15
  siblings     : 15
 physical 0:   cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
 physical 1:   cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
 cache size    : 30720 KB

```

```

From /proc/meminfo
MemTotal:      263971752 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

```

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

```

uname -a:
Linux yos 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64
x86_64 x86_64 GNU/Linux

```

run-level 3 Apr 15 22:54

```

SPEC is set to: /opt/cpu2006-1.4
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda1       ext4  275G   90G  171G  35% /

```

```

Additional information from dmidecode:
BIOS Cisco Systems, Inc. EXM4-1.2.2.1.15.022020141613 02/20/2014
Memory:
 32x 8 GB
 32x 0xCE00 M393B1K70QB0-YK0 8 GB 1333 MHz 2 rank
 16x NO DIMM NO DIMM

```

(End of data from sysinfo program)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4870 v2, 2.30 GHz)

SPECfp2006 = 71.5

SPECfp_base2006 = 68.6

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Sep-2013

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,compact,1,0"

LD_LIBRARY_PATH = "/opt/cpu2006-1.4/libs/32:/opt/cpu2006-1.4/libs/64:/opt/cpu2006-1.4/sh"

OMP_NUM_THREADS = "30"

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

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.deallI: -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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4870 v2, 2.30 GHz)

SPECfp2006 = 71.5

SPECfp_base2006 = 68.6

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Sep-2013

Base Optimization Flags

C benchmarks:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias`

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -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: `-xAVX(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: `-xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel`

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4870 v2, 2.30 GHz)

SPECfp2006 = 71.5

SPECfp_base2006 = 68.6

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Sep-2013

Peak Optimization Flags (Continued)

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: 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: basepeak = yes

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-

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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20140311.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20140311.xml>

Standard Performance Evaluation Corporation

info@spec.org

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

Page 6



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4870 v2, 2.30 GHz)

SPECfp2006 = 71.5

SPECfp_base2006 = 68.6

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Sep-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 Thu Jul 24 22:18:51 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 May 2014.