



SPEC[®] CFP2006 Result

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Cisco Systems

SPECfp[®]2006 = 62.0

Cisco UCS C22 M3 (Intel Xeon E5-2430, 2.20 GHz)

SPECfp_base2006 = 59.7

CPU2006 license: 9019

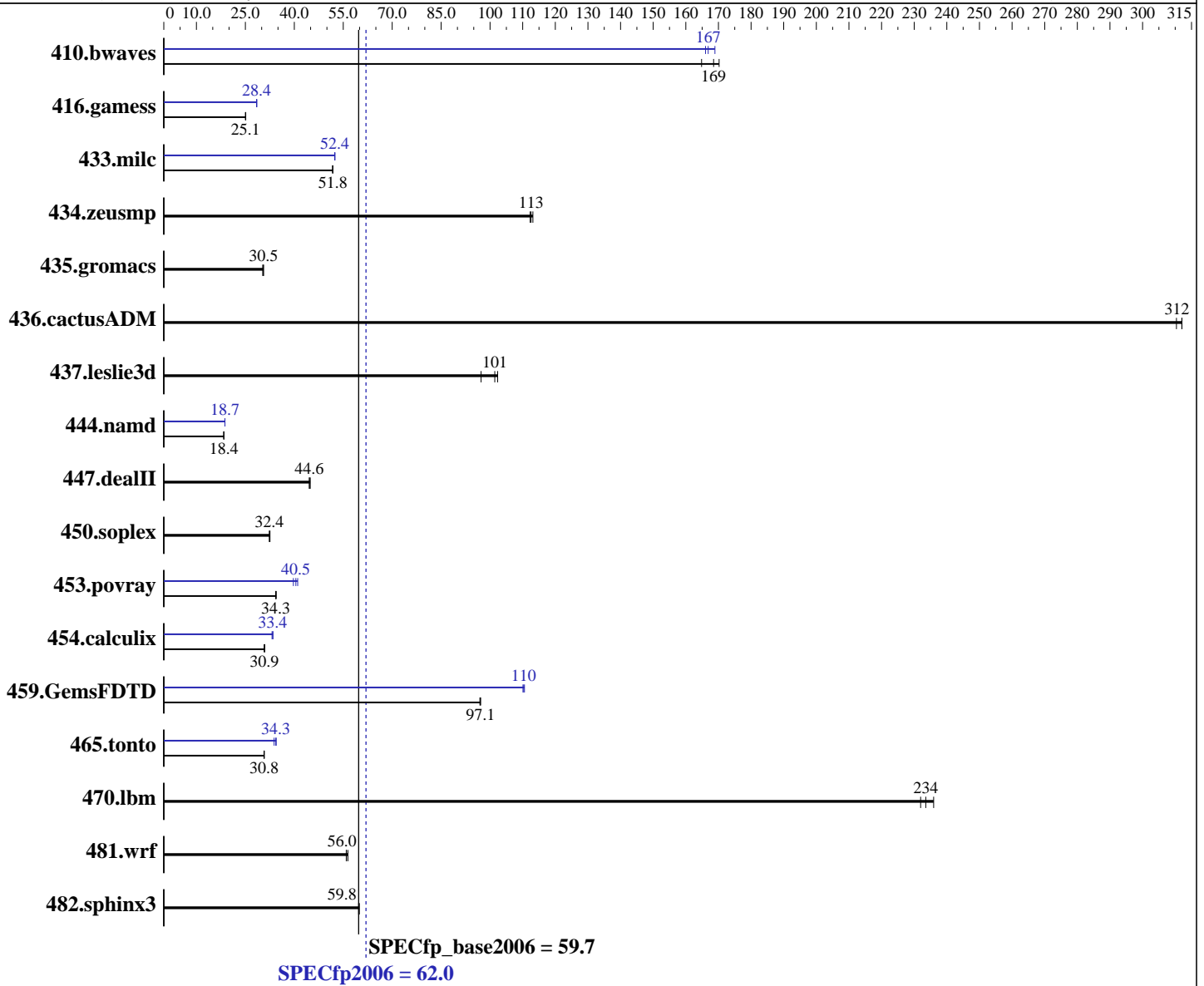
Test date: Dec-2012

Test sponsor: Cisco Systems

Hardware Availability: Sep-2012

Tested by: Cisco Systems

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E5-2430
 CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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

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Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
 2.6.32-220.el6.x86_64
 Compiler: C/C++: Version 12.1.3.293 of Intel C++ Studio XE for Linux;
 Fortran: Version 12.1.3.293 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

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L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 96 GB (12 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL9)
 Disk Subsystem: 1 X 146 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	82.4	165	80.6	169	79.8	170	81.4	167	81.8	166	80.5	169
416.gamess	779	25.1	782	25.0	781	25.1	687	28.5	688	28.4	688	28.4
433.milc	177	51.8	177	51.8	177	51.8	175	52.4	175	52.4	175	52.4
434.zeusmp	81.0	112	80.4	113	80.8	113	81.0	112	80.4	113	80.8	113
435.gromacs	234	30.5	236	30.3	234	30.5	234	30.5	236	30.3	234	30.5
436.cactusADM	38.5	310	38.3	312	38.3	312	38.5	310	38.3	312	38.3	312
437.leslie3d	92.7	101	91.9	102	96.7	97.2	92.7	101	91.9	102	96.7	97.2
444.namd	436	18.4	436	18.4	436	18.4	428	18.7	428	18.7	428	18.7
447.dealII	256	44.6	256	44.6	255	44.9	256	44.6	256	44.6	255	44.9
450.soplex	256	32.5	257	32.4	258	32.4	256	32.5	257	32.4	258	32.4
453.povray	155	34.3	154	34.5	155	34.3	130	41.0	134	39.7	131	40.5
454.calculix	268	30.8	266	31.0	267	30.9	247	33.4	249	33.2	247	33.4
459.GemsFDTD	109	97.1	110	96.9	109	97.1	96.2	110	96.0	111	96.4	110
465.tonto	320	30.7	320	30.8	320	30.8	287	34.3	286	34.5	291	33.8
470.lbm	58.2	236	58.8	234	59.2	232	58.2	236	58.8	234	59.2	232
481.wrf	198	56.4	200	55.9	200	56.0	198	56.4	200	55.9	200	56.0
482.sphinx3	326	59.8	325	59.9	326	59.7	326	59.8	325	59.9	326	59.7

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 /opt/cpu2006-1.2/config/sysinfo.rev6800
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
 running on localhost.localdomain Mon Dec 17 21:36:26 2012

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

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Platform Notes (Continued)

```

model name : Intel(R) Xeon(R) CPU E5-2430 0 @ 2.20GHz
  2 "physical id"s (chips)
  12 "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  : 6
  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:      99042396 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.el6.x86_64 #1 SMP Wed Nov 9 08:03:13
EST 2011 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Dec 17 21:35

```

SPEC is set to: /opt/cpu2006-1.2
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdal       ext4      134G   25G  103G  20% /

```

```

Additional information from dmidecode:
Memory:
  12x 0xCE00 M393B1K70DH0-YK0 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,scatter"
LD_LIBRARY_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64"
OMP_NUM_THREADS = "12"
Intel HT Technology=disable
Binaries compiled on a system with 2 X Intel Xeon E5-2690 CPU + 128 GB memory using RHEL 6.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

```

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General Notes (Continued)

Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches

Submitted_by: "Sheshgiri I (shei)" <shei@cisco.com>
Submitted: Wed Dec 19 08:56:51 EST 2012
Submission: cpu2006-20121219-25315.sub

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

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Base Optimization Flags (Continued)

C++ benchmarks:

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

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

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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: -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-ic12.1-official-linux64.20120425.html>

<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-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-linux64.20120425.xml>

<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.xml>



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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 14:44:51 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 January 2013.