



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B420 M3 (Intel Xeon E5-4607 v2, 2.60 GHz)

SPECfp[®]2006 = **70.7**

SPECfp_base2006 = **66.5**

CPU2006 license: 9019

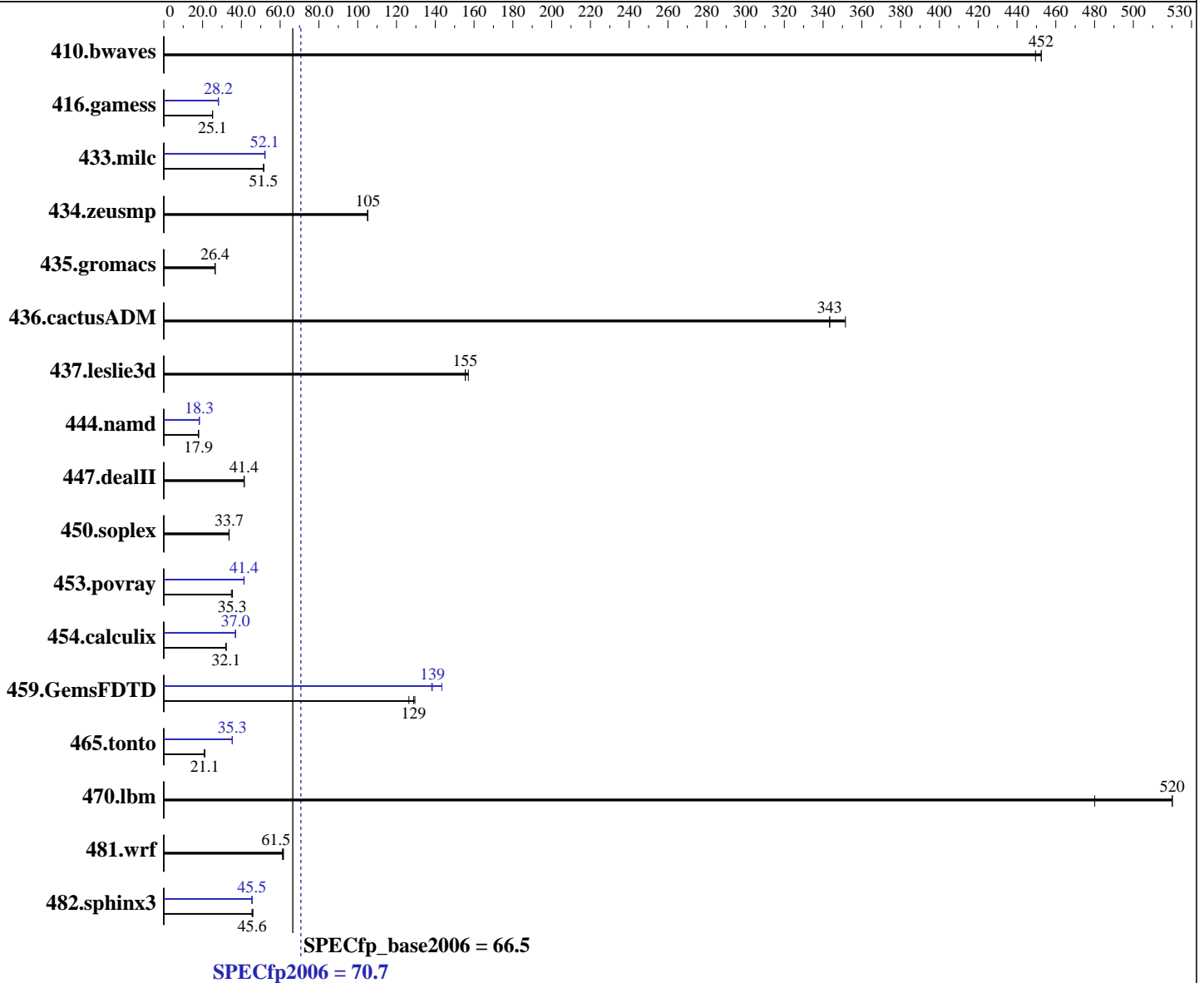
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2014

Hardware Availability: Dec-2013

Software Availability: Apr-2014



Hardware

CPU Name: Intel Xeon E5-4607 v2
 CPU Characteristics:
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2,3,4 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 B420 M3 (Intel Xeon E5-4607 v2, 2.60 GHz)

SPECfp2006 = **70.7**

SPECfp_base2006 = **66.5**

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2014

Hardware Availability: Dec-2013

Software Availability: Apr-2014

L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (32 x 8 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz and CL9)
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	30.2	450	30.0	452	30.0	453	30.2	450	30.0	452	30.0	453
416.gamess	778	25.2	780	25.1	779	25.1	695	28.2	695	28.2	696	28.1
433.milc	178	51.5	178	51.6	178	51.5	176	52.3	176	52.1	176	52.1
434.zeusmp	86.5	105	86.7	105	86.4	105	86.5	105	86.7	105	86.4	105
435.gromacs	271	26.4	270	26.4	269	26.5	271	26.4	270	26.4	269	26.5
436.cactusADM	34.0	352	34.8	343	34.8	343	34.0	352	34.8	343	34.8	343
437.leslie3d	59.9	157	60.5	155	60.5	155	59.9	157	60.5	155	60.5	155
444.namd	448	17.9	448	17.9	448	17.9	438	18.3	438	18.3	438	18.3
447.dealII	276	41.4	276	41.5	276	41.4	276	41.4	276	41.5	276	41.4
450.soplex	248	33.6	248	33.7	247	33.7	248	33.6	248	33.7	247	33.7
453.povray	151	35.3	153	34.9	150	35.4	128	41.4	129	41.3	128	41.4
454.calculix	257	32.1	257	32.1	257	32.1	223	36.9	223	37.0	223	37.0
459.GemsFDTD	81.9	130	83.9	126	82.3	129	76.8	138	74.0	143	76.6	139
465.tonto	472	20.8	466	21.1	465	21.2	279	35.3	279	35.3	279	35.3
470.lbm	26.4	520	28.6	480	26.4	520	26.4	520	28.6	480	26.4	520
481.wrf	183	61.2	182	61.5	181	61.7	183	61.2	182	61.5	181	61.7
482.sphinx3	424	46.0	428	45.6	428	45.6	429	45.4	428	45.5	427	45.6

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B420 M3 (Intel Xeon E5-4607 v2, 2.60 GHz)

SPECfp2006 = 70.7

SPECfp_base2006 = 66.5

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: May-2014
Hardware Availability: Dec-2013
Software Availability: Apr-2014

Platform Notes (Continued)

running on b420m3 Thu May 22 22:41:58 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 E5-4607 v2 @ 2.60GHz
 4 "physical id"s (chips)
 48 "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
  physical 2: cores 0 1 2 3 4 5
  physical 3: cores 0 1 2 3 4 5
cache size : 15360 KB
```

```
From /proc/meminfo
MemTotal:      264499732 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 b420m3 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 May 22 20:58

```
SPEC is set to: /opt/cpu2006-1.4
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  275G  11G  250G   5% /
```

```
Additional information from dmidecode:
BIOS Cisco Systems, Inc. B420M3.2.2.1.8.042120142113 04/21/2014
Memory:
 32x 0xAD00 HMT31GR7EFR4C-RD 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 B420 M3 (Intel Xeon E5-4607 v2, 2.60 GHz)

SPECfp2006 = 70.7

SPECfp_base2006 = 66.5

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2014

Hardware Availability: Dec-2013

Software Availability: Apr-2014

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 = "48"

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 B420 M3 (Intel Xeon E5-4607 v2, 2.60 GHz)

SPECfp2006 = 70.7

SPECfp_base2006 = 66.5

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2014

Hardware Availability: Dec-2013

Software Availability: Apr-2014

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 B420 M3 (Intel Xeon E5-4607 v2, 2.60 GHz)

SPECfp2006 = 70.7

SPECfp_base2006 = 66.5

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2014

Hardware Availability: Dec-2013

Software Availability: Apr-2014

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-revB.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-revB.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B420 M3 (Intel Xeon E5-4607 v2, 2.60 GHz)

SPECfp2006 = 70.7

SPECfp_base2006 = 66.5

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2014

Hardware Availability: Dec-2013

Software Availability: Apr-2014

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 Fri Jul 25 00:11:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 July 2014.