SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M3 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

$SPECfp^{®}\_rate2006 = 532$

$SPECfp\_rate\_base2006 = 522$

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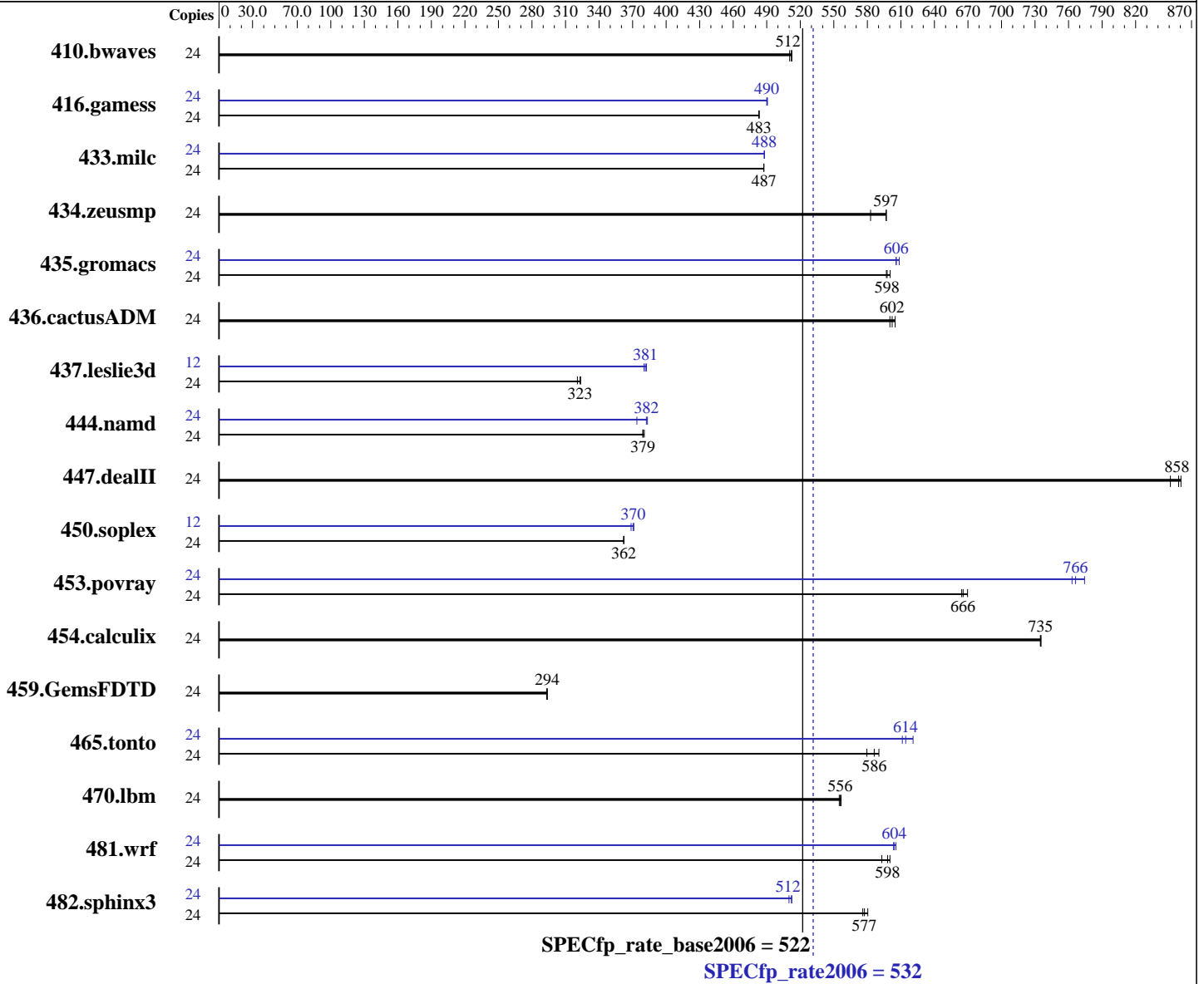**Test sponsor:** Cisco Systems
Tested by: Cisco Systems

Test date: Dec-2013
Hardware Availability: Dec-2013
Software Availability: Sep-2013

SPECfp_rate_base2006 = 522

SPECfp_rate2006 = 532

Hardware

CPU Name:	Intel Xeon E5-2643 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	3500
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
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 6.4 (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:	No
File System:	ext4

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M3 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPECfp_rate2006 =   532

SPECfp_rate_base2006 =   522

CPU2006 license: 9019	**Test date:** Dec-2013
Test sponsor: Cisco Systems	**Hardware Availability:** Dec-2013
Tested by: Cisco Systems	**Software Availability:** Sep-2013

L3 Cache:	25 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem:	1 X 300 GB 15000 RPM SAS
Other Hardware:	None

System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	639	510	**637**	**512**	636	512	24	639	510	**637**	**512**	636	512
416.gamess	24	973	483	972	483	**973**	**483**	24	**959**	**490**	958	491	959	490
433.milc	24	452	487	**452**	**487**	452	487	24	**452**	**488**	452	488	452	488
434.zeusmp	24	**366**	**597**	366	597	375	583	24	**366**	**597**	366	597	375	583
435.gromacs	24	287	597	285	600	**287**	**598**	24	283	606	**283**	**606**	282	609
436.cactusADM	24	478	600	**476**	**602**	474	605	24	478	600	**476**	**602**	474	605
437.leslie3d	24	**698**	**323**	697	323	704	321	12	297	380	295	382	**296**	**381**
444.namd	24	506	380	**507**	**379**	508	379	24	515	374	502	383	**503**	**382**
447.dealII	24	323	851	319	861	**320**	**858**	24	323	851	319	861	**320**	**858**
450.soplex	24	**553**	**362**	553	362	553	362	12	**270**	**370**	270	371	271	369
453.povray	24	**192**	**666**	191	670	192	664	24	**167**	**766**	167	763	165	774
454.calculix	24	269	735	**269**	**735**	269	735	24	269	735	**269**	**735**	269	735
459.GemsFDTD	24	869	293	867	294	**867**	**294**	24	869	293	867	294	**867**	**294**
465.tonto	24	407	580	400	590	**403**	**586**	24	380	621	**384**	**614**	386	611
470.lbm	24	593	557	**593**	**556**	594	555	24	593	557	**593**	**556**	594	555
481.wrf	24	452	593	**448**	**598**	447	600	24	**444**	**604**	443	606	444	603
482.sphinx3	24	**810**	**577**	812	576	806	580	24	917	510	913	512	**913**	**512**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

   The numactl mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate numactl commands to bind each copy to a specific processor.
For details, please see the config file.

Operating System Notes

   Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

   BIOS Settings:
   Intel HT Technology = Enabled
   CPU performance set to HPC

Continued on next page

Cisco Systems

Cisco UCS C240 M3 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPECfp_rate2006 =   532

SPECfp_rate_base2006 =   522

CPU2006 license: 9019	**Test date:** Dec-2013
Test sponsor: Cisco Systems	**Hardware Availability:** Dec-2013
Tested by: Cisco Systems	**Software Availability:** Sep-2013

Platform Notes (Continued)

```
Power Technology set to Custom
CPU Power State C6 set to Enabled
CPU Power State C1 Enhanced set to Disabled
Energy Performance policy set to Performance
Memory RAS configuration set to Maximum Performance
DRAM Clock Throttling Set to Performance
LV DDR Mode set to Performance-mode
DRAM Refresh Rate Set to 1x
 Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6818
 $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
 running on C240M3-ivb Sun Dec  8 15:32:09 2013

 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 E5-2643 v2 @ 3.50GHz
       2 "physical id"s (chips)
       24 "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 2 3 4 8 9 10
       physical 1: cores 2 3 4 8 9 10
    cache size : 25600 KB

 From /proc/meminfo
    MemTotal:       132125188 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 C240M3-ivb 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 Dec 8 15:30

 SPEC is set to: /opt/cpu2006-1.2
    Filesystem      Type     Size  Used Avail Use% Mounted on
    /dev/sda1       ext4     275G   13G  248G   5% /
```

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M3 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPECfp_rate2006 = 532

SPECfp_rate_base2006 = 522

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

Test date: Dec-2013
Hardware Availability: Dec-2013
Software Availability: Sep-2013

Platform Notes (Continued)

```
  Additional information from dmidecode:
    BIOS Cisco Systems, Inc. C240M3.1.5.3b.0.082020130616 08/20/2013
    Memory:
     16x 0xAD00 HMT31GR7EFR4C-RD 8 GB 1866 MHz 2 rank
     8x NO DIMM NO DIMM

  (End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64:/opt/cpu2006-1.2/sh"

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

Cisco Systems

Cisco UCS C240 M3 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPECfp_rate2006 =   532

SPECfp_rate_base2006 =   522

CPU2006 license: 9019		**Test date:**	Dec-2013
Test sponsor: Cisco Systems		**Hardware Availability:**	Dec-2013
Tested by: Cisco Systems		**Software Availability:**	Sep-2013

Base Portability Flags (Continued)

```
     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 -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

C++ benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc   -m64
```

```
    482.sphinx3: icc -m32
```

C++ benchmarks (except as noted below):

```
icpc  -m64
```

```
    450.soplex: icpc -m32
```

Fortran benchmarks:

```
ifort -m64
```

Benchmarks using both Fortran and C:

```
icc   -m64 ifort -m64
```

SPEC CFP2006 Result

Cisco Systems

Cisco UCS C240 M3 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

$\text{SPECfp\_rate2006} = \quad 532$

$\text{SPECfp\_rate\_base2006} = \quad 522$

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

Test date: Dec-2013
Hardware Availability: Dec-2013
Software Availability: Sep-2013

Peak 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
   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
```

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) -opt-mem-layout-trans=3(pass 2)
              -prof-use(pass 2) -auto-ilp32

     470.lbm: basepeak = yes

  482.sphinx3: -xAVX -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
              -unroll2
```

C++ benchmarks:

```
    444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
              -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
              -prof-use(pass 2) -fno-alias -auto-ilp32

   447.dealII: basepeak = yes

   450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
              -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
              -prof-use(pass 2) -opt-malloc-options=3

   453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
              -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
              -prof-use(pass 2) -unroll4 -ansi-alias
```

Fortran benchmarks:

Cisco Systems

Cisco UCS C240 M3 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPECfp_rate2006 =　532

SPECfp_rate_base2006 =　522

CPU2006 license:	9019	**Test date:**	Dec-2013
Test sponsor:	Cisco Systems	**Hardware Availability:**	Dec-2013
Tested by:	Cisco Systems	**Software Availability:**	Sep-2013

Peak Optimization Flags (Continued)

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

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) `-unroll4` `-auto`
`-inline-calloc` `-opt-malloc-options=3`

Benchmarks using both Fortran and C:

435.gromacs: `-xAVX`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2)
`-no-prec-div`(pass 2) `-opt-mem-layout-trans=3`(pass 2)
`-prof-use`(pass 2) `-opt-prefetch` `-auto-ilp32`

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: `-xAVX` `-ipo` `-O3` `-no-prec-div` `-auto-ilp32`

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-V1.2.20130717.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-V1.2.20130717.xml

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 16:55:46 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 31 December 2013.