SPEC® CFP2006 Result
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Cisco Systems

Cisco UCS B200 M2 (Intel Xeon E5649, 2.53 GHz)

$SPECfp^®\_rate2006 =$ 219

$SPECfp\_rate\_base2006 =$ 215

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

Test date: Feb-2011
Hardware Availability: Mar-2011
Software Availability: Jan-2011

Benchmark	Copies	Result
410.bwaves	12	169
410.bwaves	24	169
416.gamess	12	249
416.gamess	24	257
433.milc	24	178
433.milc	24	178
434.zeusmp	24	256
435.gromacs	24	248
435.gromacs	24	248
436.cactusADM	24	281
437.leslie3d	12	123
437.leslie3d	24	120
444.namd	24	236
444.namd	24	233
447.dealII	24	330
447.dealII	24	342
450.soplex	12	144
450.soplex	24	127
453.povray	24	423
453.povray	24	361
454.calculix	24	300
459.GemsFDTD	24	111
465.tonto	24	235
465.tonto	24	233
470.lbm	12	250
470.lbm	24	246
481.wrf	24	197
482.sphinx3	24	203
482.sphinx3	24	194

SPECfp_rate_base2006 = 215

SPECfp_rate2006 = 219

Hardware

CPU Name: Intel Xeon E5649
CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz
CPU MHz: 2533
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable: 1 ,2 chips
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: SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)

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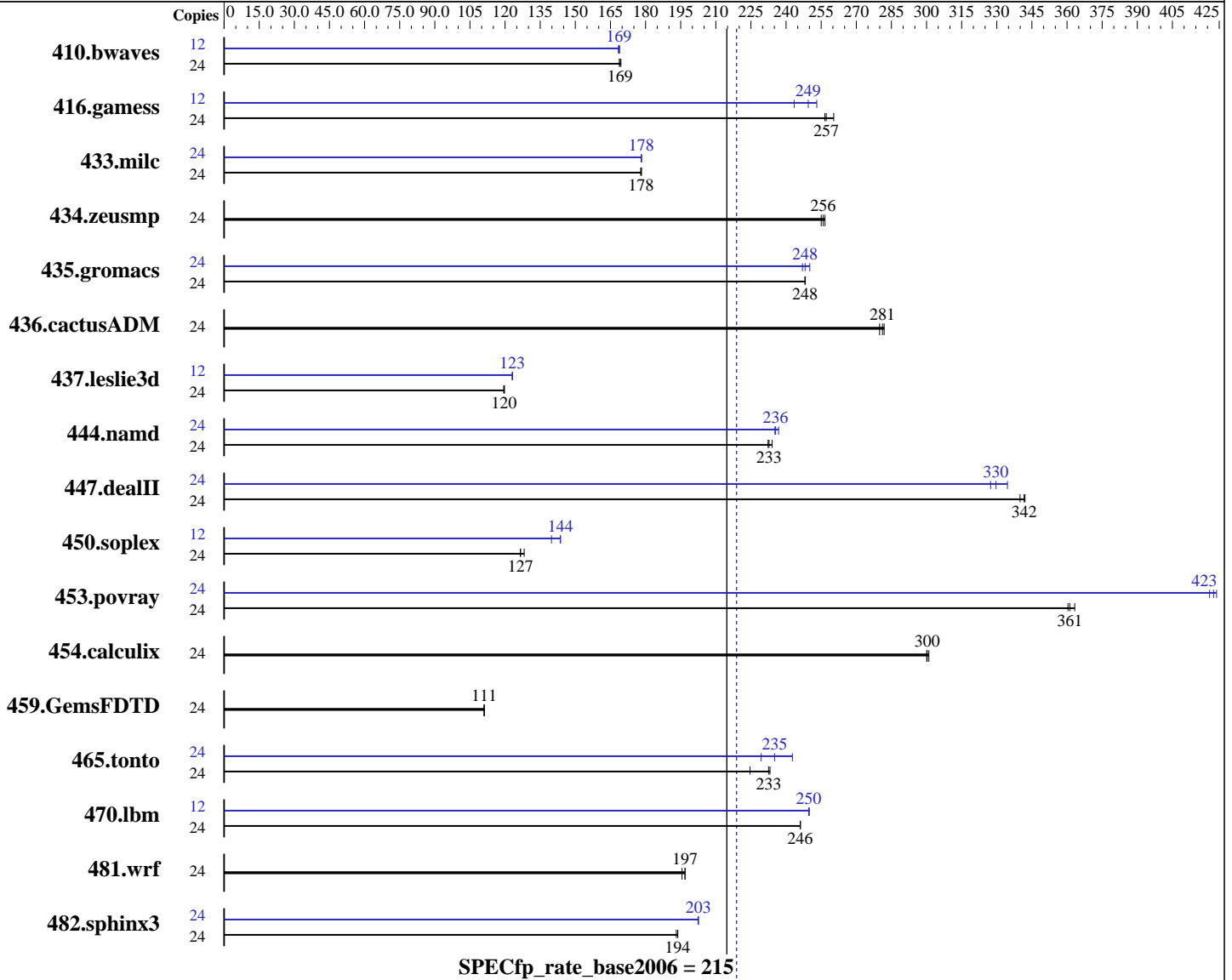**CPU2006 license:** 9019　　　　　　　　　　　　　　　　　　**Test date:** Feb-2011
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L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB 2Rx4 PC3L-10600R-9, ECC)
Disk Subsystem:	73 GB SAS, 15K RPM
Other Hardware:	None

Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Binaries compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1932	169	**1928**	**169**	1924	169	12	**967**	**169**	965	169	968	168
416.gamess	24	1832	257	1805	260	**1827**	**257**	12	965	243	**942**	**249**	928	253
433.milc	24	1238	178	1236	178	**1237**	**178**	24	1236	178	1236	178	**1236**	**178**
434.zeusmp	24	**854**	**256**	851	257	856	255	24	**854**	**256**	851	257	856	255
435.gromacs	24	690	248	691	248	**691**	**248**	24	685	250	694	247	**691**	**248**
436.cactusADM	24	1024	280	**1020**	**281**	1017	282	24	1024	280	**1020**	**281**	1017	282
437.leslie3d	24	1889	119	**1886**	**120**	1884	120	12	**916**	**123**	916	123	917	123
444.namd	24	822	234	829	232	**827**	**233**	24	813	237	**817**	**236**	818	235
447.dealII	24	**804**	**342**	803	342	808	340	24	839	327	821	335	**833**	**330**
450.soplex	24	**1581**	**127**	1582	127	1562	128	12	716	140	697	144	**697**	**144**
453.povray	24	**354**	**361**	354	360	351	363	24	301	424	**302**	**423**	303	421
454.calculix	24	658	301	**659**	**300**	660	300	24	658	301	**659**	**300**	660	300
459.GemsFDTD	24	**2292**	**111**	2293	111	2291	111	24	**2292**	**111**	2293	111	2291	111
465.tonto	24	1051	225	1013	233	**1016**	**233**	24	1030	229	**1004**	**235**	973	243
470.lbm	24	1340	246	1340	246	**1340**	**246**	12	660	250	**660**	**250**	660	250
481.wrf	24	**1362**	**197**	1362	197	1371	196	24	**1362**	**197**	1362	197	1371	196
482.sphinx3	24	**2414**	**194**	2422	193	2414	194	24	**2309**	**203**	2309	203	2310	202

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

Submit Notes

```
    The config file option 'submit' was used.
     numactl was used to bind copies to the cores
```

Operating System Notes

```
    ulimit -s unlimited was used to set the stacksize to unlimited prior to run
    Large pages were not enabled for this run
```

Platform Notes

```
    BIOS Configuration : Data Reuse Optimization = Disabled
```

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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:
    -xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

Fortran benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
    -xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

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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
```

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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

    470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
           -ansi-alias -opt-prefetch -static -auto-ilp32
```

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Peak Optimization Flags (Continued)

    482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

    444.namd: -xSSE4.2(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.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

    450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
           -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

    453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
           -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

    410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -static

    416.gamess: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div
           -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

  459.GemsFDTD: basepeak = yes

    465.tonto: -xSSE4.2(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
           -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Benchmarks using both Fortran and C:

    435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
           -static -auto-ilp32

  436.cactusADM: basepeak = yes

    454.calculix: basepeak = yes

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Peak Optimization Flags (Continued)

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Platform-Settings.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Platform-Settings.xml

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