SPEC® CFP2006 Result
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Cisco Systems

Cisco B200-M1 (Intel Xeon X5570, 2.93 GHz)

SPECfp®_rate2006 =   199

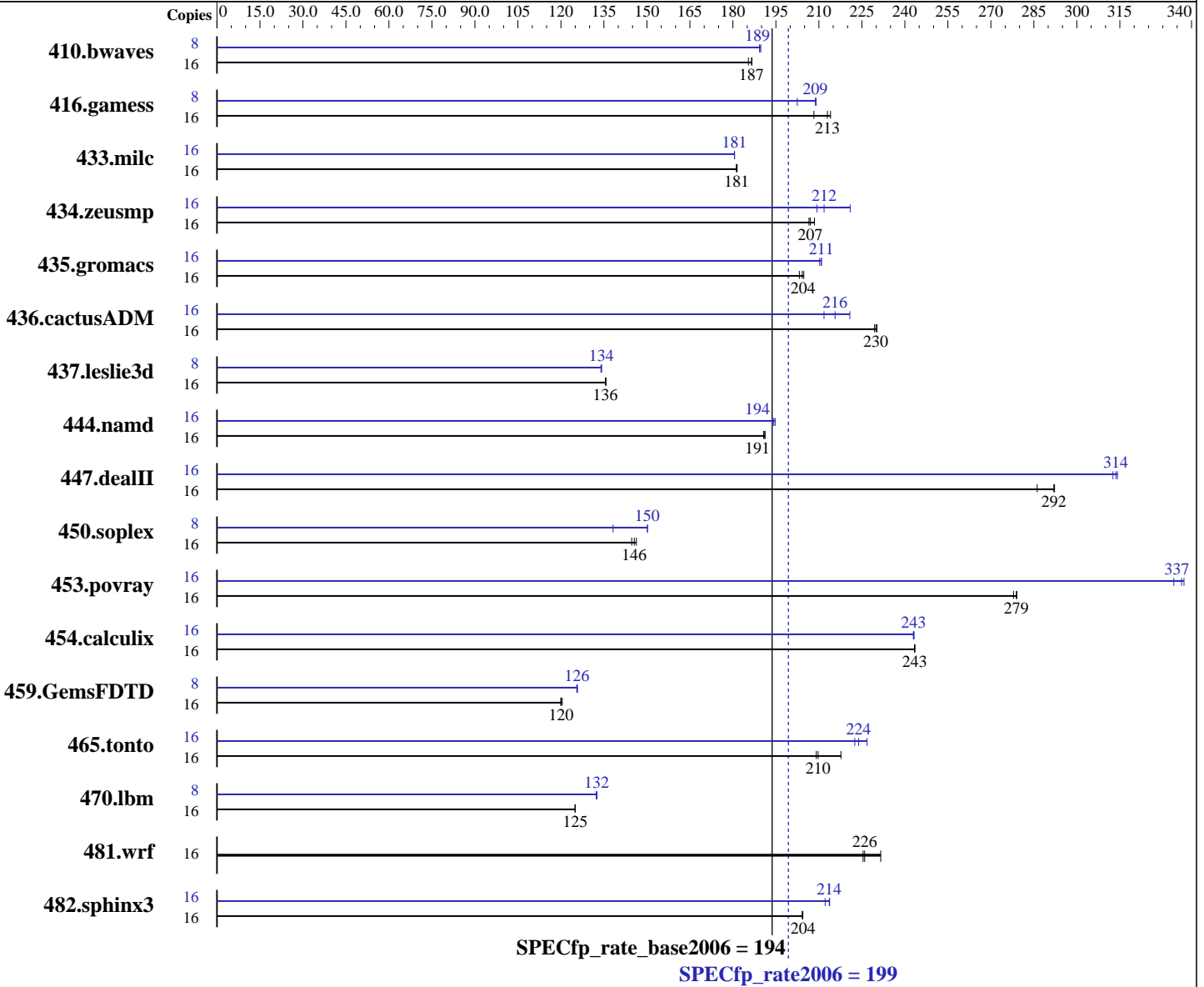SPECfp_rate_base2006 =   194

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

Test date: Mar-2009
Hardware Availability: May-2009
Software Availability: Mar-2009

Copies		
410.bwaves	8	189
	16	187
416.gamess	8	209
	16	213
433.milc	16	181
	16	181
434.zeusmp	16	212
	16	207
435.gromacs	16	211
	16	204
436.cactusADM	16	216
	16	230
437.leslie3d	8	134
	16	136
444.namd	16	194
	16	191
447.dealII	16	314
	16	292
450.soplex	8	150
	16	146
453.povray	16	337
	16	279
454.calculix	16	243
	16	243
459.GemsFDTD	8	126
	16	120
465.tonto	16	224
	16	210
470.lbm	8	132
	16	125
481.wrf	16	226
482.sphinx3	16	214
	16	204

SPECfp_rate_base2006 = 194

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Hardware

CPU Name: Intel Xeon X5570
CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz: 2933
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 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), Kernel 2.6.27-15-2-default, RC4
Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080
Auto Parallel: No
File System: ext2
System State: Run level 3 (multi-user)
Base Pointers: 64-bit

Continued on next page

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L3 Cache: 8 MB I+D on chip per chip	Peak Pointers: 32/64-bit
Other Cache: None	Other Software: None
Memory: 24 GB (6 x 4GB DDR3-1333 MHz)	
Disk Subsystem: SEAGATE ST9733402SS 73GB, 15K RPM SAS Drive	
Other Hardware: None	

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	1173	185	1165	187	**1166**	**187**	8	574	189	573	190	**574**	**189**
416.gamess	16	1463	214	1504	208	**1471**	**213**	8	**750**	**209**	749	209	774	202
433.milc	16	809	181	**810**	**181**	810	181	16	**813**	**181**	813	181	814	181
434.zeusmp	16	**703**	**207**	698	208	705	207	16	696	209	659	221	**687**	**212**
435.gromacs	16	**559**	**204**	558	205	562	203	16	542	211	543	210	**542**	**211**
436.cactusADM	16	833	229	830	230	**832**	**230**	16	903	212	**887**	**216**	866	221
437.leslie3d	16	**1110**	**136**	1110	136	1108	136	8	561	134	**561**	**134**	560	134
444.namd	16	671	191	673	191	**672**	**191**	16	662	194	659	195	**661**	**194**
447.dealII	16	626	292	640	286	**627**	**292**	16	583	314	**584**	**314**	586	313
450.soplex	16	**917**	**146**	912	146	922	145	8	483	138	**444**	**150**	444	150
453.povray	16	306	278	305	279	**305**	**279**	16	255	334	252	337	**253**	**337**
454.calculix	16	542	243	**542**	**243**	542	243	16	543	243	543	243	**543**	**243**
459.GemsFDTD	16	1409	120	**1414**	**120**	1415	120	8	676	126	675	126	**676**	**126**
465.tonto	16	**751**	**210**	753	209	723	218	16	708	223	**703**	**224**	694	227
470.lbm	16	**1758**	**125**	1758	125	1760	125	8	831	132	**830**	**132**	829	133
481.wrf	16	772	232	**791**	**226**	793	225	16	772	232	**791**	**226**	793	225
482.sphinx3	16	1525	204	1527	204	**1527**	**204**	16	1470	212	**1460**	**214**	1459	214

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 --localalloc --physcpubind=$BIND was used to bind copies to the cores
   using following bind list:
   bind =  0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
```

Operating System Notes

```
   ulimit -s unlimited was used to set the stack size
```

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Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icc ifort

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

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

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

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

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Peak Compiler Invocation

C benchmarks (except as noted below):
    icc

    482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
    icpc

    450.soplex: `icpc -m32`

Fortran benchmarks (except as noted below):
    ifort

    437.leslie3d: `ifort -m32`

Benchmarks using both Fortran and C:
    icc ifort

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`
       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) -static(pass 2) -prof-use(pass 2)`
                `-fno-alias`

        470.lbm: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`
                `-auto-ilp32`

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Peak Optimization Flags (Continued)

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

C++ benchmarks:

```
  444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(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) -static(pass 2) -prof-use(pass 2)
            -unroll2 -ansi-alias -scalar-rep-

 450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -opt-malloc-options=3

 453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll4 -ansi-alias
```

Fortran benchmarks:

```
 410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

 416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll2 -Ob0 -ansi-alias -scalar-rep-

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

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll2 -Ob0 -opt-prefetch

  465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll4 -auto
```

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) -static(pass 2) -prof-use(pass 2)
            -opt-prefetch -auto-ilp32
```

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$SPECfp\_rate2006 =$ **199**

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Peak Optimization Flags (Continued)

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -opt-prefetch -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.xml

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