



SPEC® CFP2006 Result

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Cisco Systems

SPECfp®_rate2006 = 200

UCS C200 M1 (Intel Xeon X5550)

SPECfp_rate_base2006 = 192

CPU2006 license: 9019

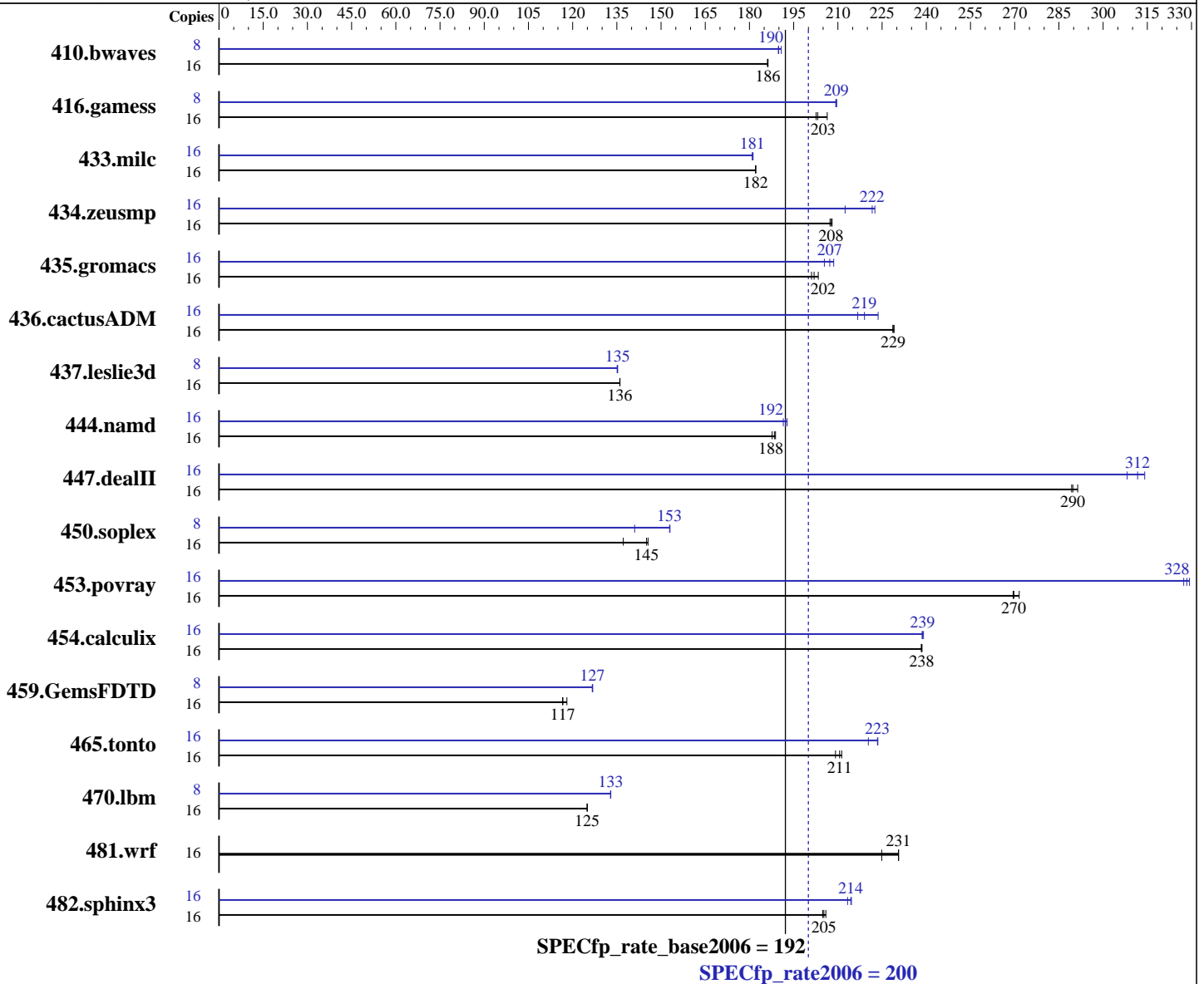
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Jan-2010

Hardware Availability: Oct-2009

Software Availability: Mar-2009



Hardware

CPU Name: Intel Xeon X5550
 CPU Characteristics: Intel Turbo Boost Technology up to 3.06 GHz
 CPU MHz: 2667
 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

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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: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6 * 4GB DDR3-1333 MHz)
Disk Subsystem: 73 GB SATA, 15kRPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---------------|--------|-------------|------------|-------------|------------|------------|------------|--------|------------|------------|------------|------------|-------------|------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 16 | 1168 | 186 | 1167 | 186 | 1168 | 186 | 8 | 572 | 190 | 570 | 191 | 573 | 190 |
| 416.gamess | 16 | 1518 | 206 | 1542 | 203 | 1546 | 203 | 8 | 748 | 209 | 748 | 209 | 747 | 210 |
| 433.milc | 16 | 807 | 182 | 806 | 182 | 806 | 182 | 16 | 810 | 181 | 812 | 181 | 812 | 181 |
| 434.zeusmp | 16 | 700 | 208 | 701 | 208 | 702 | 207 | 16 | 657 | 222 | 654 | 223 | 685 | 212 |
| 435.gromacs | 16 | 562 | 203 | 566 | 202 | 568 | 201 | 16 | 548 | 209 | 556 | 205 | 551 | 207 |
| 436.cactusADM | 16 | 835 | 229 | 836 | 229 | 836 | 229 | 16 | 882 | 217 | 873 | 219 | 855 | 224 |
| 437.leslie3d | 16 | 1105 | 136 | 1106 | 136 | 1105 | 136 | 8 | 557 | 135 | 556 | 135 | 556 | 135 |
| 444.namd | 16 | 684 | 188 | 679 | 189 | 681 | 188 | 16 | 670 | 191 | 668 | 192 | 666 | 193 |
| 447.dealII | 16 | 628 | 291 | 633 | 289 | 632 | 290 | 16 | 587 | 312 | 583 | 314 | 594 | 308 |
| 450.soplex | 16 | 973 | 137 | 917 | 146 | 920 | 145 | 8 | 473 | 141 | 436 | 153 | 436 | 153 |
| 453.povray | 16 | 316 | 270 | 313 | 272 | 316 | 269 | 16 | 258 | 329 | 259 | 328 | 260 | 327 |
| 454.calculix | 16 | 554 | 238 | 553 | 239 | 554 | 238 | 16 | 553 | 239 | 553 | 239 | 552 | 239 |
| 459.GemsFDTD | 16 | 1455 | 117 | 1456 | 117 | 1438 | 118 | 8 | 670 | 127 | 669 | 127 | 670 | 127 |
| 465.tonto | 16 | 753 | 209 | 748 | 211 | 745 | 211 | 16 | 715 | 220 | 705 | 223 | 704 | 224 |
| 470.lbm | 16 | 1760 | 125 | 1760 | 125 | 1759 | 125 | 8 | 827 | 133 | 827 | 133 | 827 | 133 |
| 481.wrf | 16 | 775 | 231 | 795 | 225 | 775 | 231 | 16 | 775 | 231 | 795 | 225 | 775 | 231 |
| 482.sphinx3 | 16 | 1522 | 205 | 1519 | 205 | 1514 | 206 | 16 | 1462 | 213 | 1453 | 215 | 1454 | 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 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

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

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.deallI: -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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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-revH.20100317.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-revH.20100317.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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