



SPEC[®] CFP2006 Result

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Cisco Systems

SPECfp[®]_rate2006 = 159

Cisco B200-M1 (Intel Xeon L5520, 2.26 GHz)

SPECfp_rate_base2006 = 154

CPU2006 license: 9019

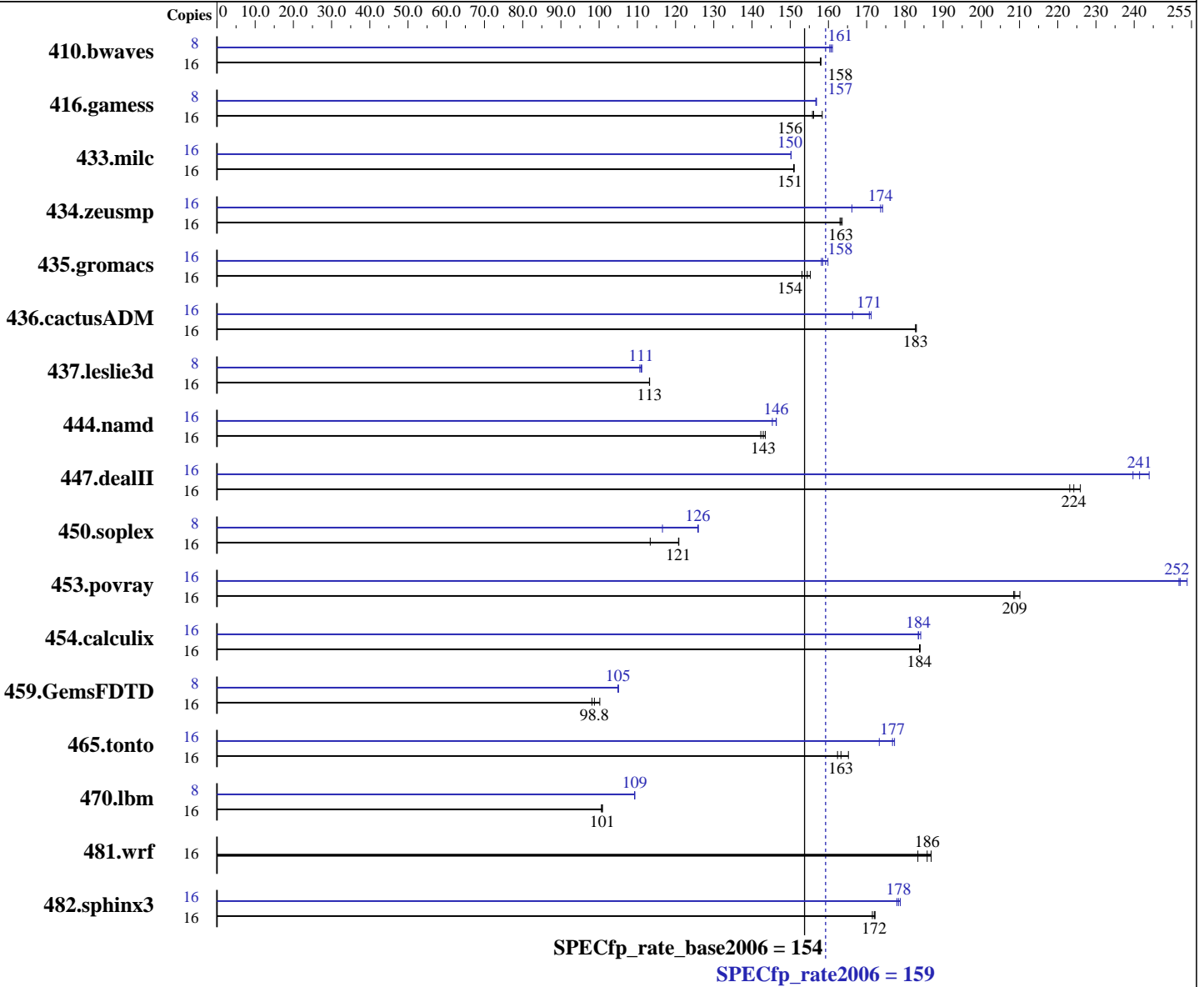
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2009

Hardware Availability: May-2009

Software Availability: May-2009



Hardware

CPU Name: Intel Xeon L5520
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz
 CPU MHz: 2267
 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 2.6.27.19-5-default
 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: ext3
 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
Other Cache: None
Memory: 24 GB (12 x 2GB DDR3 1066 MHz)
Disk Subsystem: 73 GB SAS ST973451SS, 15000 RPM
Other Hardware: None

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 | 16 | 1377 | 158 | <u>1376</u> | <u>158</u> | 1376 | 158 | 8 | <u>677</u> | <u>161</u> | 675 | 161 | 678 | 160 |
| 416.gamess | 16 | <u>2007</u> | <u>156</u> | 2010 | 156 | 1978 | 158 | 8 | 999 | 157 | <u>999</u> | <u>157</u> | 998 | 157 |
| 433.milc | 16 | <u>973</u> | <u>151</u> | 973 | 151 | 972 | 151 | 16 | 978 | 150 | <u>978</u> | <u>150</u> | 978 | 150 |
| 434.zeusmp | 16 | 893 | 163 | <u>892</u> | <u>163</u> | 890 | 164 | 16 | <u>838</u> | <u>174</u> | 876 | 166 | 836 | 174 |
| 435.gromacs | 16 | 736 | 155 | 746 | 153 | <u>740</u> | <u>154</u> | 16 | 715 | 160 | 722 | 158 | <u>721</u> | <u>158</u> |
| 436.cactusADM | 16 | 1045 | 183 | 1046 | 183 | <u>1046</u> | <u>183</u> | 16 | 1150 | 166 | <u>1120</u> | <u>171</u> | 1117 | 171 |
| 437.leslie3d | 16 | <u>1329</u> | <u>113</u> | 1329 | 113 | 1328 | 113 | 8 | 676 | 111 | <u>678</u> | <u>111</u> | 680 | 111 |
| 444.namd | 16 | 894 | 143 | <u>898</u> | <u>143</u> | 902 | 142 | 16 | 883 | 145 | <u>877</u> | <u>146</u> | 877 | 146 |
| 447.dealII | 16 | 810 | 226 | 820 | 223 | <u>816</u> | <u>224</u> | 16 | <u>758</u> | <u>241</u> | 764 | 240 | 750 | 244 |
| 450.soplex | 16 | 1177 | 113 | <u>1105</u> | <u>121</u> | 1104 | 121 | 8 | 572 | 117 | 530 | 126 | <u>530</u> | <u>126</u> |
| 453.povray | 16 | <u>408</u> | <u>209</u> | 405 | 210 | 408 | 208 | 16 | <u>338</u> | <u>252</u> | 335 | 254 | 338 | 252 |
| 454.calculix | 16 | 718 | 184 | <u>718</u> | <u>184</u> | 717 | 184 | 16 | 717 | 184 | <u>719</u> | <u>184</u> | 719 | 184 |
| 459.GemsFDTD | 16 | 1695 | 100 | 1730 | 98.1 | <u>1719</u> | <u>98.8</u> | 8 | <u>809</u> | <u>105</u> | 809 | 105 | 808 | 105 |
| 465.tonto | 16 | <u>964</u> | <u>163</u> | 953 | 165 | 970 | 162 | 16 | 908 | 173 | 888 | 177 | <u>891</u> | <u>177</u> |
| 470.lbm | 16 | 2185 | 101 | 2180 | 101 | <u>2181</u> | <u>101</u> | 8 | 1006 | 109 | 1006 | 109 | <u>1006</u> | <u>109</u> |
| 481.wrf | 16 | 956 | 187 | <u>962</u> | <u>186</u> | 974 | 183 | 16 | 956 | 187 | <u>962</u> | <u>186</u> | 974 | 183 |
| 482.sphinx3 | 16 | 1818 | 171 | <u>1813</u> | <u>172</u> | 1811 | 172 | 16 | 1753 | 178 | <u>1749</u> | <u>178</u> | 1744 | 179 |

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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General Notes

Submitted_by: "Ven Immani (immaniv)" <immaniv@cisco.com>
Submitted: Wed Jun 10 17:31:06 EDT 2009
Submission: cpu2006-20090601-07565.sub

Submitted_by: "Ven Immani (immaniv)" <immaniv@cisco.com>
Submitted: Wed Jun 10 17:38:56 EDT 2009
Submission: cpu2006-20090601-07565.sub

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.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



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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

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

Continued on next page



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Peak Portability Flags (Continued)

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

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

Continued on next page



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Peak Optimization Flags (Continued)

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

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.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.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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