



SPEC[®] CFP2006 Result

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Cisco Systems

SPECfp[®]_rate2006 = 291

Cisco UCS B230 M1 (Intel Xeon X7560, 2.27 GHz)

SPECfp_rate_base2006 = 283

CPU2006 license: 9019

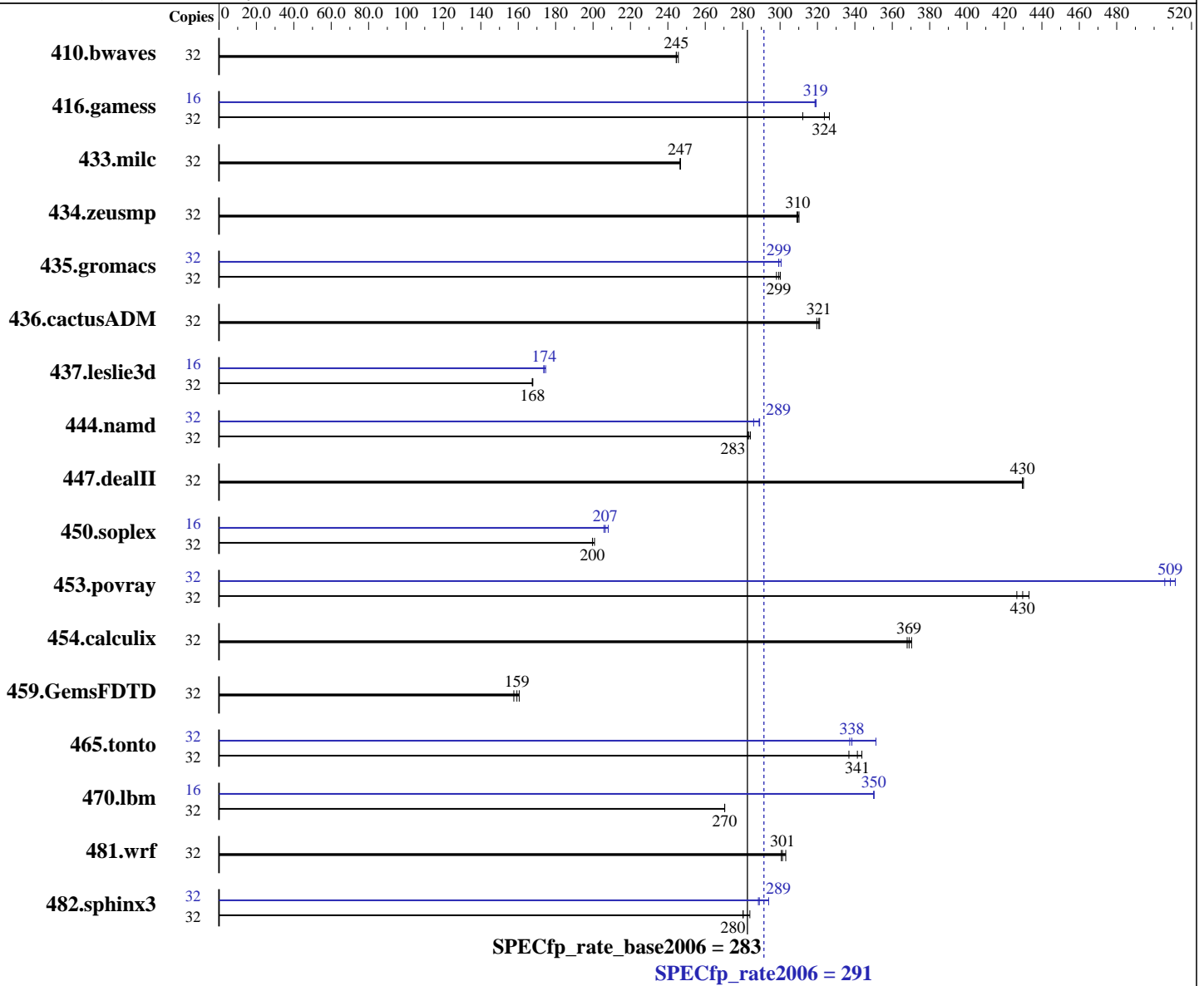
Test date: Mar-2011

Test sponsor: Cisco Systems

Hardware Availability: Mar-2011

Tested by: Cisco Systems

Software Availability: Jan-2011



Hardware

CPU Name: Intel Xeon X7560
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz
 CPU MHz: 2266
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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) 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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L3 Cache: 24 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (32 x 4 GB 2Rx4 PC3-10600R-9, ECC)
 Disk Subsystem: 64 GB SSD, SATA Gen2, 3Gb/s
 Other Hardware: None

Base Pointers: 64-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	32	1771	246	<u>1778</u>	<u>245</u>	1779	244	32	1771	246	<u>1778</u>	<u>245</u>	1779	244
416.gamess	32	2007	312	<u>1936</u>	<u>324</u>	1920	326	16	983	319	<u>982</u>	<u>319</u>	981	319
433.milc	32	1192	247	<u>1191</u>	<u>247</u>	1190	247	32	1192	247	<u>1191</u>	<u>247</u>	1190	247
434.zeusmp	32	939	310	<u>941</u>	<u>310</u>	942	309	32	939	310	<u>941</u>	<u>310</u>	942	309
435.gromacs	32	<u>763</u>	<u>299</u>	761	300	767	298	32	764	299	760	301	<u>763</u>	<u>299</u>
436.cactusADM	32	1191	321	1196	320	<u>1192</u>	<u>321</u>	32	1191	321	1196	320	<u>1192</u>	<u>321</u>
437.leslie3d	32	1793	168	<u>1794</u>	<u>168</u>	1796	167	16	<u>865</u>	<u>174</u>	861	175	866	174
444.namd	32	908	283	903	284	<u>906</u>	<u>283</u>	32	888	289	<u>889</u>	<u>289</u>	898	286
447.dealII	32	851	430	<u>852</u>	<u>430</u>	852	430	32	851	430	<u>852</u>	<u>430</u>	852	430
450.soplex	32	1329	201	<u>1336</u>	<u>200</u>	1337	200	16	<u>646</u>	<u>207</u>	648	206	641	208
453.povray	32	<u>396</u>	<u>430</u>	393	433	399	427	32	337	506	333	511	<u>335</u>	<u>509</u>
454.calculix	32	713	370	717	368	<u>715</u>	<u>369</u>	32	713	370	717	368	<u>715</u>	<u>369</u>
459.GemsFDTD	32	2115	161	2154	158	<u>2131</u>	<u>159</u>	32	2115	161	2154	158	<u>2131</u>	<u>159</u>
465.tonto	32	935	337	<u>922</u>	<u>341</u>	916	344	32	896	351	934	337	<u>931</u>	<u>338</u>
470.lbm	32	<u>1626</u>	<u>270</u>	1626	270	1626	270	16	<u>628</u>	<u>350</u>	628	350	628	350
481.wrf	32	1189	301	<u>1186</u>	<u>301</u>	1180	303	32	1189	301	<u>1186</u>	<u>301</u>	1180	303
482.sphinx3	32	2226	280	<u>2225</u>	<u>280</u>	2197	284	32	2162	288	<u>2159</u>	<u>289</u>	2122	294

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 -ansi-alias

C++ benchmarks:

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

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -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: basepeak = yes

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 -auto-ilp32

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

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Peak Optimization Flags (Continued)

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: basepeak = yes

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

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

Fortran benchmarks:

410.bwaves: basepeak = yes

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-

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

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
-auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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/Cisco-BIOS-Platform-Settings.html>



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You can also download the XML flags sources by saving the following links:

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<http://www.spec.org/cpu2006/flags/Cisco-BIOS-Platform-Settings.xml>

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For other inquiries, please contact webmaster@spec.org.

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