



SPEC[®] CFP2006 Result

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Itautec

SPECfp[®]_rate2006 = 162

Servidor Itautec MX223 (Intel Xeon E5520)

SPECfp_rate_base2006 = 157

CPU2006 license: 9001

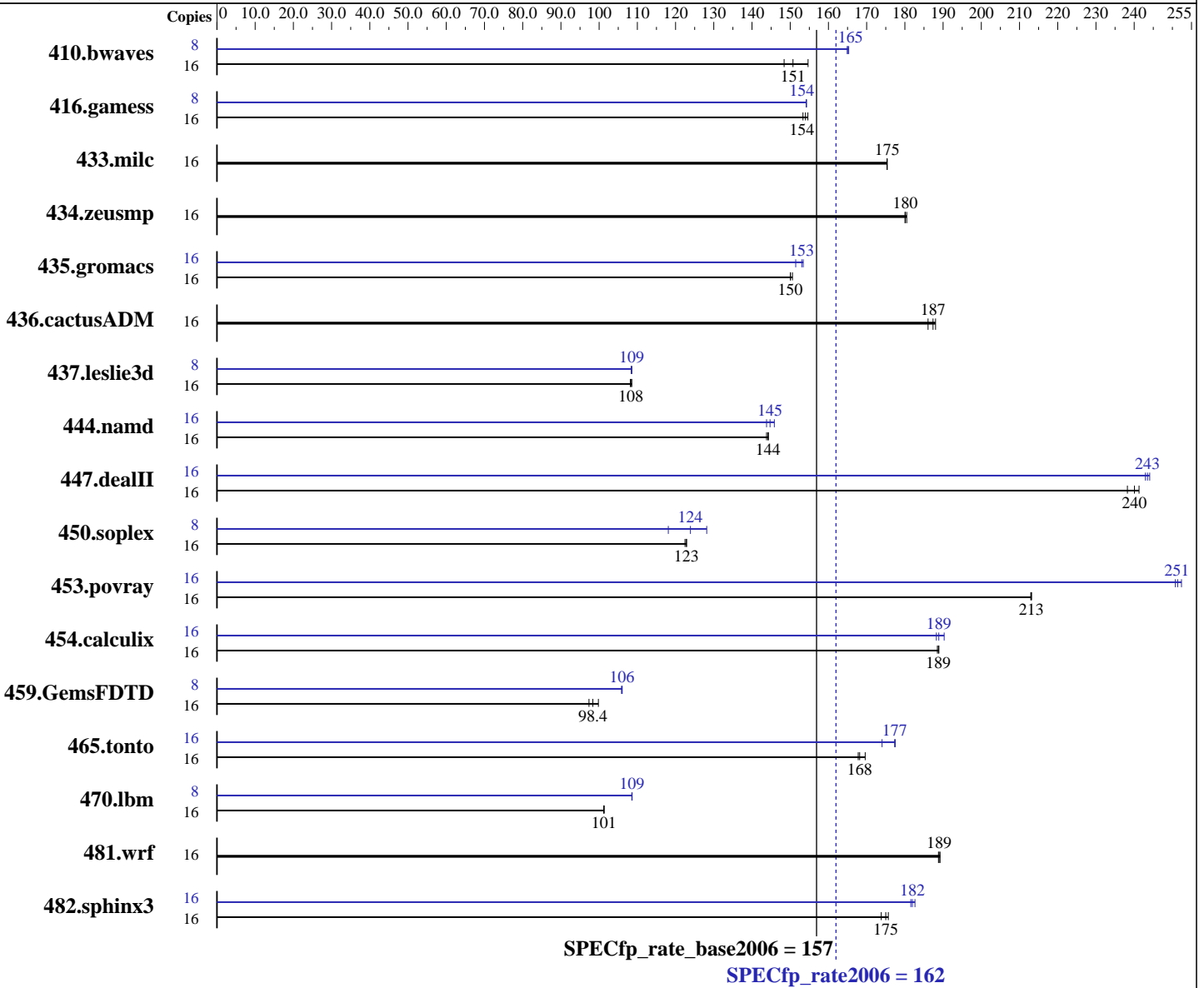
Test date: Mar-2010

Test sponsor: Itautec

Hardware Availability: Mar-2009

Tested by: Itautec

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon E5520
 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

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Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.081, l_cprof_p_11.0.081
 Auto Parallel: No
 File System: ReiserFS
 System State: Run level 3 (multi-user)

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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, CL 7, ECC)
Disk Subsystem: 1 x 160 GB SATA-2, 7200RPM
Other Hardware: None

Base Pointers: 64-bit
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	1406	155	<u>1443</u>	<u>151</u>	1465	148	8	659	165	658	165	<u>659</u>	<u>165</u>
416.gamess	16	2026	155	2043	153	<u>2034</u>	<u>154</u>	8	<u>1016</u>	<u>154</u>	1015	154	1016	154
433.milc	16	838	175	<u>838</u>	<u>175</u>	838	175	16	838	175	<u>838</u>	<u>175</u>	838	175
434.zeusmp	16	<u>808</u>	<u>180</u>	807	180	809	180	16	<u>808</u>	<u>180</u>	807	180	809	180
435.gromacs	16	759	151	<u>761</u>	<u>150</u>	761	150	16	<u>747</u>	<u>153</u>	745	153	754	151
436.cactusADM	16	1028	186	<u>1020</u>	<u>187</u>	1017	188	16	1028	186	<u>1020</u>	<u>187</u>	1017	188
437.leslie3d	16	<u>1388</u>	<u>108</u>	1386	109	1391	108	8	<u>693</u>	<u>109</u>	693	109	694	108
444.namd	16	892	144	889	144	<u>890</u>	<u>144</u>	16	<u>887</u>	<u>145</u>	880	146	892	144
447.dealII	16	759	241	768	238	<u>762</u>	<u>240</u>	16	<u>752</u>	<u>243</u>	750	244	753	243
450.soplex	16	1086	123	<u>1086</u>	<u>123</u>	1090	122	8	565	118	<u>539</u>	<u>124</u>	521	128
453.povray	16	399	213	<u>399</u>	<u>213</u>	400	213	16	339	251	337	252	<u>339</u>	<u>251</u>
454.calculix	16	700	189	<u>699</u>	<u>189</u>	699	189	16	694	190	<u>699</u>	<u>189</u>	701	188
459.GemsFDTD	16	1701	99.8	<u>1726</u>	<u>98.4</u>	1744	97.3	8	<u>801</u>	<u>106</u>	802	106	800	106
465.tonto	16	<u>936</u>	<u>168</u>	928	170	938	168	16	905	174	887	178	<u>888</u>	<u>177</u>
470.lbm	16	2170	101	<u>2172</u>	<u>101</u>	2172	101	8	1013	109	<u>1012</u>	<u>109</u>	1012	109
481.wrf	16	<u>946</u>	<u>189</u>	947	189	945	189	16	<u>946</u>	<u>189</u>	947	189	945	189
482.sphinx3	16	1794	174	<u>1782</u>	<u>175</u>	1775	176	16	1718	182	<u>1714</u>	<u>182</u>	1707	183

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.

General Notes

This result was measured on the Servidor Itautec MX203.
The Servidor Itautec MX203 and the Servidor Itautec MX223 are electronically equivalent.



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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: basepeak = yes

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

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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) -static(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32
447.dealIII: -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: basepeak = yes
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
436.cactusADM: basepeak = yes
454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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Peak Optimization Flags (Continued)

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Itautec-Intel-ic11.0-fp-linux64-revI.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Itautec-Intel-ic11.0-fp-linux64-revI.xml>

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