



SPEC® CINT2006 Result

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IBM Corporation

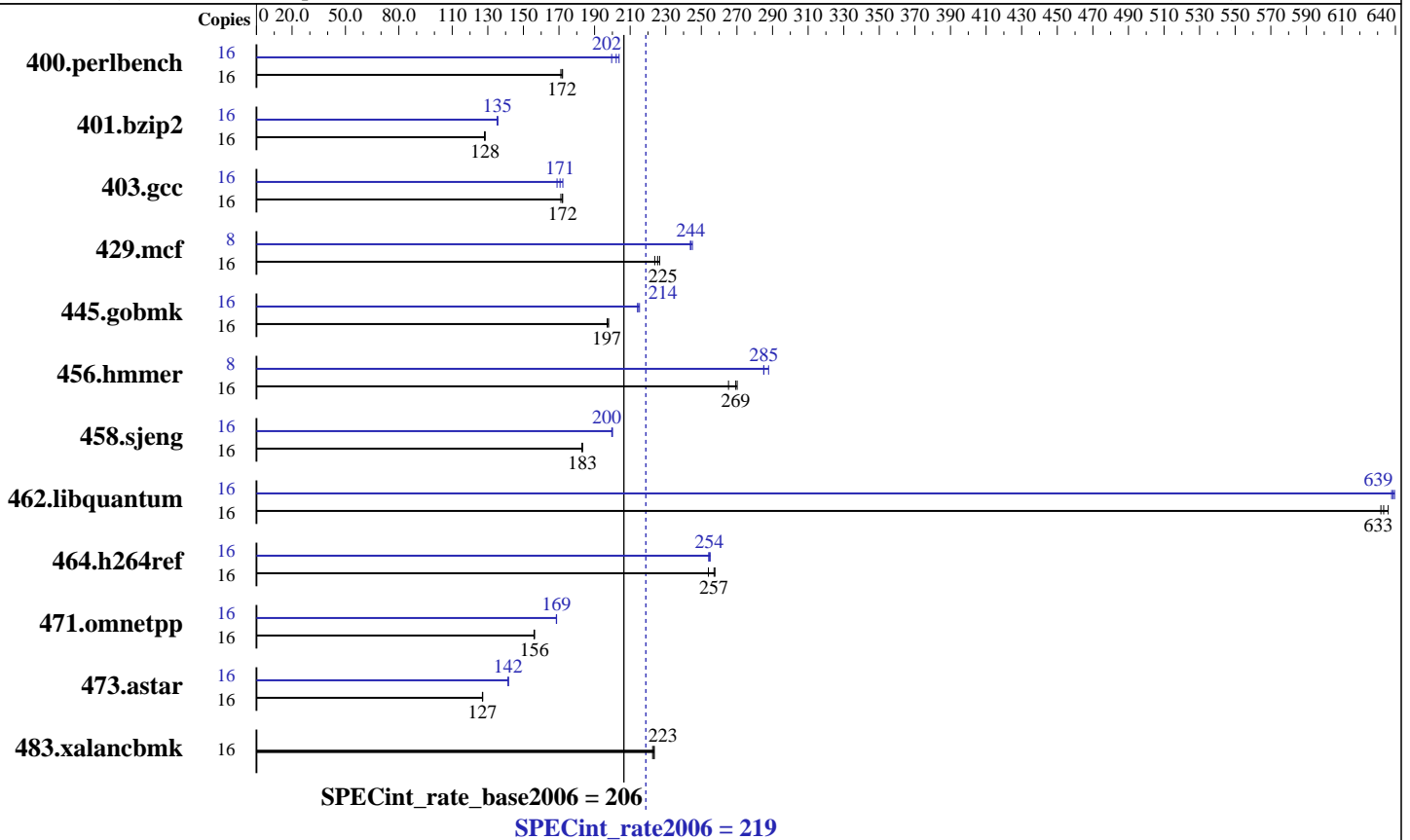
SPECint®_rate2006 = 219

IBM System x3400 M3 (Intel Xeon E5530)

SPECint_rate_base2006 = 206

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Jun-2010
Hardware Availability: Jun-2010
Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon E5530
 CPU Characteristics: Intel Turbo Boost Technology up to 2.66 GHz
 CPU MHz: 2400
 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
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (12 x 4 GB PC3-10600R CL9, 2 Rank)
 Disk Subsystem: 1 x 73 GB SAS, 15000 RPM
 Other Hardware: None

Software

Operating System: SuSe Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	909	172	914	171	<u>910</u>	<u>172</u>	16	767	204	783	200	<u>773</u>	<u>202</u>
401.bzip2	16	<u>1202</u>	<u>128</u>	1205	128	1202	128	16	1138	136	<u>1140</u>	<u>135</u>	1141	135
403.gcc	16	753	171	<u>749</u>	<u>172</u>	749	172	16	<u>755</u>	<u>171</u>	763	169	748	172
429.mcf	16	644	227	<u>647</u>	<u>225</u>	652	224	8	299	244	<u>299</u>	<u>244</u>	298	245
445.gobmk	16	848	198	852	197	<u>851</u>	<u>197</u>	16	780	215	<u>783</u>	<u>214</u>	783	214
456.hammer	16	563	265	<u>554</u>	<u>269</u>	553	270	8	259	288	<u>262</u>	<u>285</u>	262	285
458.sjeng	16	1057	183	1058	183	<u>1057</u>	<u>183</u>	16	968	200	970	200	<u>968</u>	<u>200</u>
462.libquantum	16	<u>523</u>	<u>633</u>	525	632	521	636	16	518	640	520	638	<u>519</u>	<u>639</u>
464.h264ref	16	1374	258	<u>1377</u>	<u>257</u>	1394	254	16	1389	255	<u>1392</u>	<u>254</u>	1393	254
471.omnetpp	16	<u>641</u>	<u>156</u>	640	156	641	156	16	593	169	593	169	<u>593</u>	<u>169</u>
473.astar	16	885	127	<u>884</u>	<u>127</u>	884	127	16	794	141	<u>794</u>	<u>142</u>	794	142
483.xalancbmk	16	<u>495</u>	<u>223</u>	496	223	494	224	16	<u>495</u>	<u>223</u>	496	223	494	224

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

Platform Notes

Turbo Mode Enable
Turbo Boost set to Traditional
CPU C State Enable

General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32



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Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.icl1.1/libicl1.1-32bit -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

456.hmmcr: -DSPEC_CPU_LP64
 458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
 473.astar: -DSPEC_CPU_LP64
 483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -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) -ansi-alias

401.bzip2: -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 -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
 -ipo -no-prec-div -ansi-alias

456.hmmcr: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
 -ansi-alias -auto-ilp32

458.sjeng: -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-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
 -opt-prefetch

464.h264ref: -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

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
 -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
 -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs

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Peak Optimization Flags (Continued)

473.astar (continued):

`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100601.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100601.xml>

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

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