



SPEC® CINT2006 Result

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Sun Microsystems Sun Fire X4600 M2

SPECint®_rate2006 = 135

SPECint_rate_base2006 = 114

CPU2006 license: 6

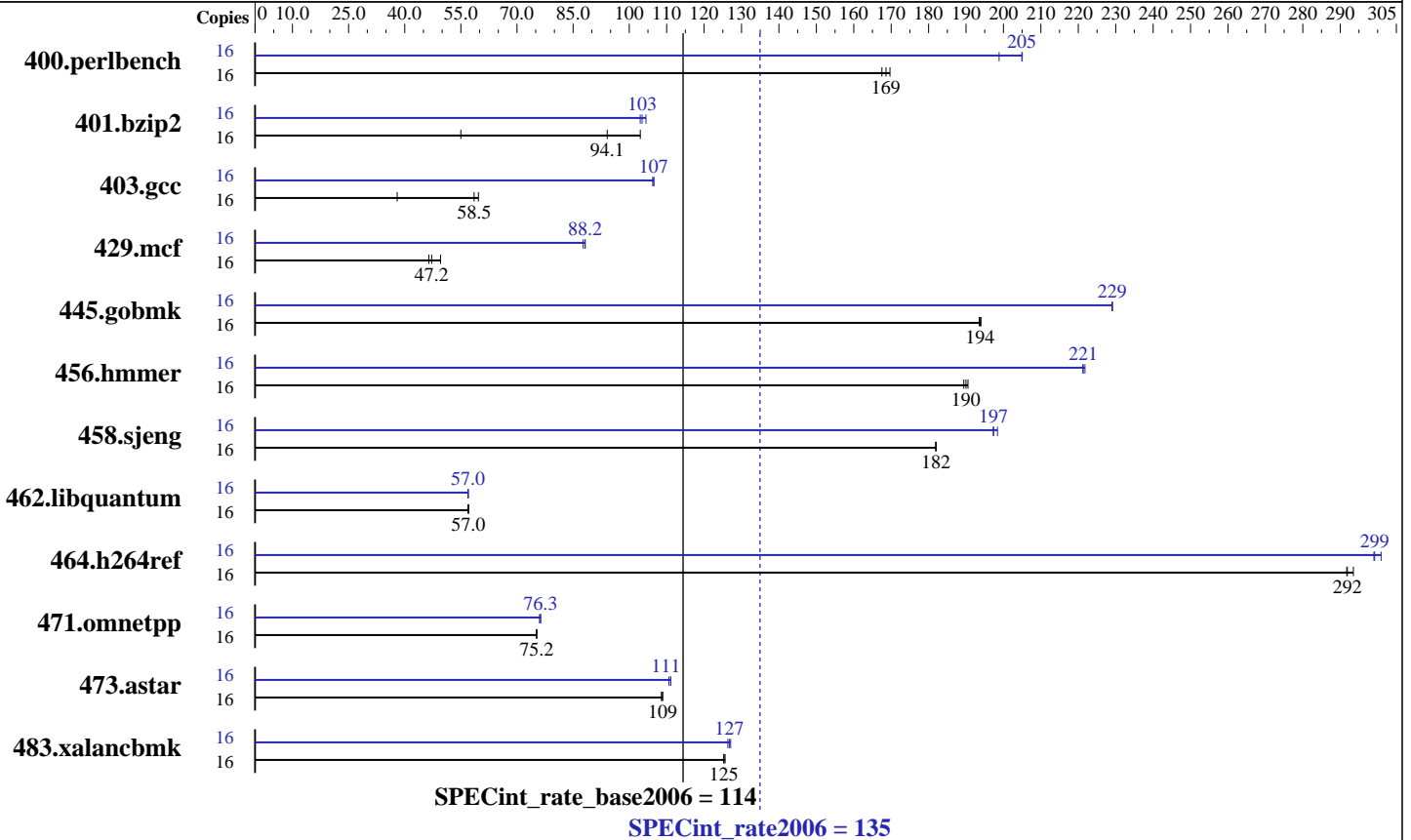
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Mar-2007

Hardware Availability: Oct-2006

Software Availability: Aug-2006



Hardware

CPU Name: AMD Opteron 8218
 CPU Characteristics:
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 8 chips, 2 cores/chip
 CPU(s) orderable: 4,8 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core
 L3 Cache: None
 Other Cache: None
 Memory: 32 GB (16x2GB, DDR2-667 CL5 ECC Reg Dual Rank)
 Disk Subsystem: SAS, 72 GB, 10K RPM
 Other Hardware: None

Software

Operating System: RedHat Enterprise Linux Advanced Server Release 4 update 4 for AMD64/EMT64
 Compiler: QLogic PathScale Compiler Suite, Release 2.5
 Auto Parallel: No
 File System: ext3
 System State: Multi-user, run level 3
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill's SmartHeap 8.0 32-bit Library for Linux



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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	921	170	933	168	<u>927</u>	<u>169</u>	16	786	199	<u>763</u>	<u>205</u>	762	205
401.bzip2	16	2808	55.0	<u>1641</u>	<u>94.1</u>	1500	103	16	1500	103	1478	104	<u>1493</u>	<u>103</u>
403.gcc	16	3391	38.0	<u>2200</u>	<u>58.5</u>	2158	59.7	16	1209	107	1212	106	<u>1209</u>	<u>107</u>
429.mcf	16	3141	46.5	<u>3092</u>	<u>47.2</u>	2943	49.6	16	<u>1655</u>	<u>88.2</u>	1664	87.7	1653	88.3
445.gobmk	16	867	194	865	194	<u>866</u>	<u>194</u>	16	732	229	733	229	<u>733</u>	<u>229</u>
456.hmmer	16	788	189	784	191	<u>786</u>	<u>190</u>	16	673	222	<u>675</u>	<u>221</u>	675	221
458.sjeng	16	1063	182	1064	182	<u>1064</u>	<u>182</u>	16	<u>981</u>	<u>197</u>	976	198	981	197
462.libquantum	16	5811	57.0	5818	57.0	<u>5817</u>	<u>57.0</u>	16	5817	57.0	<u>5821</u>	<u>57.0</u>	5826	56.9
464.h264ref	16	1206	294	1214	292	<u>1213</u>	<u>292</u>	16	1177	301	<u>1183</u>	<u>299</u>	1184	299
471.omnetpp	16	1328	75.3	1329	75.2	<u>1329</u>	<u>75.2</u>	16	<u>1311</u>	<u>76.3</u>	1310	76.3	1316	76.0
473.aster	16	<u>1031</u>	<u>109</u>	1031	109	1034	109	16	1016	111	1011	111	<u>1011</u>	<u>111</u>
483.xalancbmk	16	<u>881</u>	<u>125</u>	879	126	881	125	16	874	126	<u>871</u>	<u>127</u>	869	127

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

taskset utility used to bind CPU(s) to processes
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Base Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

```



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Base Optimization Flags

C benchmarks:
-Ofast
C++ benchmarks:
-Ofast -m32 -L/data1/SmartHeap_8smp/lib -lsmartheap_smp

Base Other Flags

C benchmarks:
-IPA:max_jobs=4
C++ benchmarks:
-IPA:max_jobs=4

Peak Compiler Invocation

C benchmarks:
pathcc
C++ benchmarks:
pathCC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalanbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:
400.perlbench: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
401.bzip2: -O3 -LNO:ou_prod_max=10 -OPT:Ofast -OPT:alias=disjoint

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Peak Optimization Flags (Continued)

403.gcc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -m32 -O3
-OPT:Ofast

429.mcf: -m32 -O2 -ipa -L/data1/SmartHeap_8smp/lib -lsmartheap_smp

445.gobmk: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:alias=disjoint -LNO:simd=0 -LNO:minvariant=off
-WOPT:retype_expr=on

456.hmmer: -O2 -OPT:alias=disjoint -WOPT:aggstr=0 -CG:cflow=0

458.sjeng: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-IPA:plimit=50000 -IPA:pu_reorder=2

462.libquantum: -O3 -ipa -CG:local_fwd_sched=on -IPA:space=1000

464.h264ref: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-IPA:plimit=20000 -OPT:alias=disjoint -LNO:prefetch=0

C++ benchmarks:

471.omnetpp: -Ofast -IPA:pu_reorder=2 -CG:gcm=off -m32
-L/data1/SmartHeap_8smp/lib -lsmartheap_smp

473.astar: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-m32 -L/data1/SmartHeap_8smp/lib -lsmartheap_smp

483.xalancbmk: -Ofast -m32 -OPT:unroll_times_max=8
-L/data1/SmartHeap_8smp/lib -lsmartheap_smp

Peak Other Flags

C benchmarks:
-IPA:max_jobs=4

C++ benchmarks:
-IPA:max_jobs=4

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.27.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.27.xml



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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 11:53:45 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 April 2007.