SPEC® CINT2006 Result

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ACTION S.A.

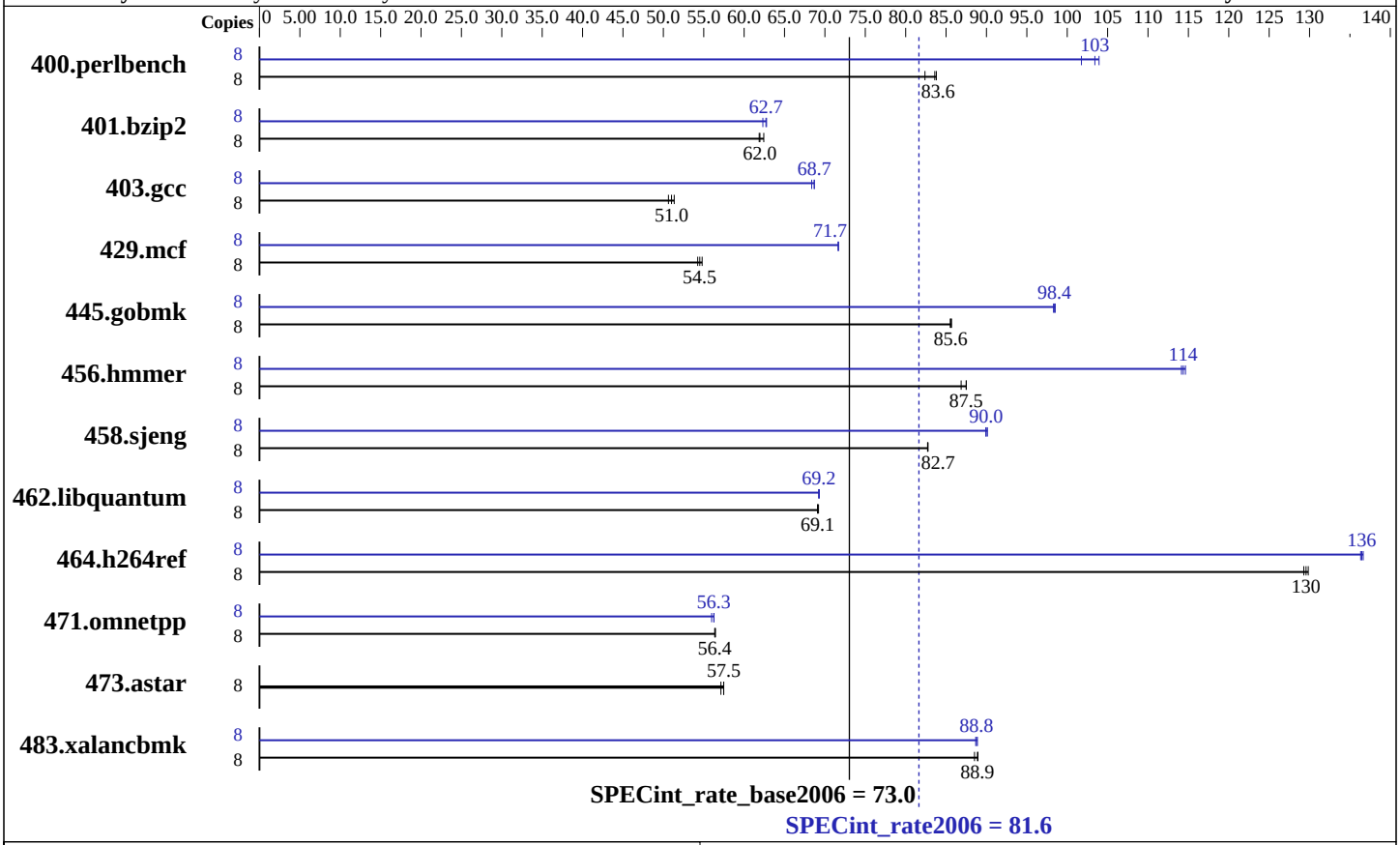
ASERVER 442 S3 (Opteron 8350)

SPECint®_rate2006 = 81.6

SPECint_rate_base2006 = 73.0

CPU2006 license: 9008
Test sponsor: ACTION S.A.
Tested by: Krzysztof Gierczyk

Test date: Aug-2008
Hardware Availability: Jul-2008
Software Availability: Feb-2007



Hardware

CPU Name:	AMD Opteron 8350
CPU Characteristics:	
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2,4 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	512 KB I+D on chip per core
L3 Cache:	2 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (4x4GB, DDR2-667 CL5 ECC Reg Single Rank)
Disk Subsystem:	1 x 250 GB, SATA II, 7200rpm
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	QLogic PathScale Compiler Suite, Release 3.0
Auto Parallel:	No
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	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	8	**935**	**83.6**	949	82.4	933	83.8	8	768	102	752	104	**756**	**103**
401.bzip2	8	1237	62.4	1248	61.9	**1246**	**62.0**	8	1239	62.3	**1231**	**62.7**	1230	62.8
403.gcc	8	1254	51.3	1272	50.6	**1263**	**51.0**	8	942	68.4	**938**	**68.7**	938	68.7
429.mcf	8	**1338**	**54.5**	1345	54.3	1331	54.8	8	1018	71.7	**1018**	**71.7**	1018	71.6
445.gobmk	8	**980**	**85.6**	981	85.5	980	85.7	8	854	98.3	**853**	**98.4**	852	98.5
456.hmmer	8	**853**	**87.5**	859	86.9	853	87.5	8	651	115	654	114	**653**	**114**
458.sjeng	8	1170	82.7	**1170**	**82.7**	1170	82.8	8	1074	90.1	1077	89.9	**1076**	**90.0**
462.libquantum	8	2395	69.2	**2399**	**69.1**	2399	69.1	8	2391	69.3	2394	69.2	**2394**	**69.2**
464.h264ref	8	**1366**	**130**	1364	130	1369	129	8	**1297**	**136**	1296	137	1299	136
471.omnetpp	8	887	56.4	886	56.5	**887**	**56.4**	8	**889**	**56.3**	893	56.0	889	56.3
473.astar	8	983	57.1	**977**	**57.5**	977	57.5	8	983	57.1	**977**	**57.5**	977	57.5
483.xalancbmk	8	**621**	**88.9**	624	88.5	621	89.0	8	623	88.7	**622**	**88.8**	621	88.9

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

General Notes

```
taskset utility used to bind cores to processes
```

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

Base Optimization Flags

C benchmarks:
`-Ofast -OPT:malloc_alg=1`

C++ benchmarks:
`-Ofast -m32 -L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap`

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.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-Ofast -LNO:opt=0`

401.bzip2: `-O3 -LNO:ou_prod_max=10 -OPT:Ofast -OPT:alias=disjoint`

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

429.mcf: `-m32 -O3 -ipa -L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap`

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`

Continued on next page

Peak Optimization Flags (Continued)

456.hmmer: `-O2 -OPT:alias=disjoint -OPT:malloc_alg=1 -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 -CG:gcm=off -m32 -L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8 -L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.xml`

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