SPEC® CINT2006 Result

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Tyan

(Test Sponsor: Advanced Micro Devices)

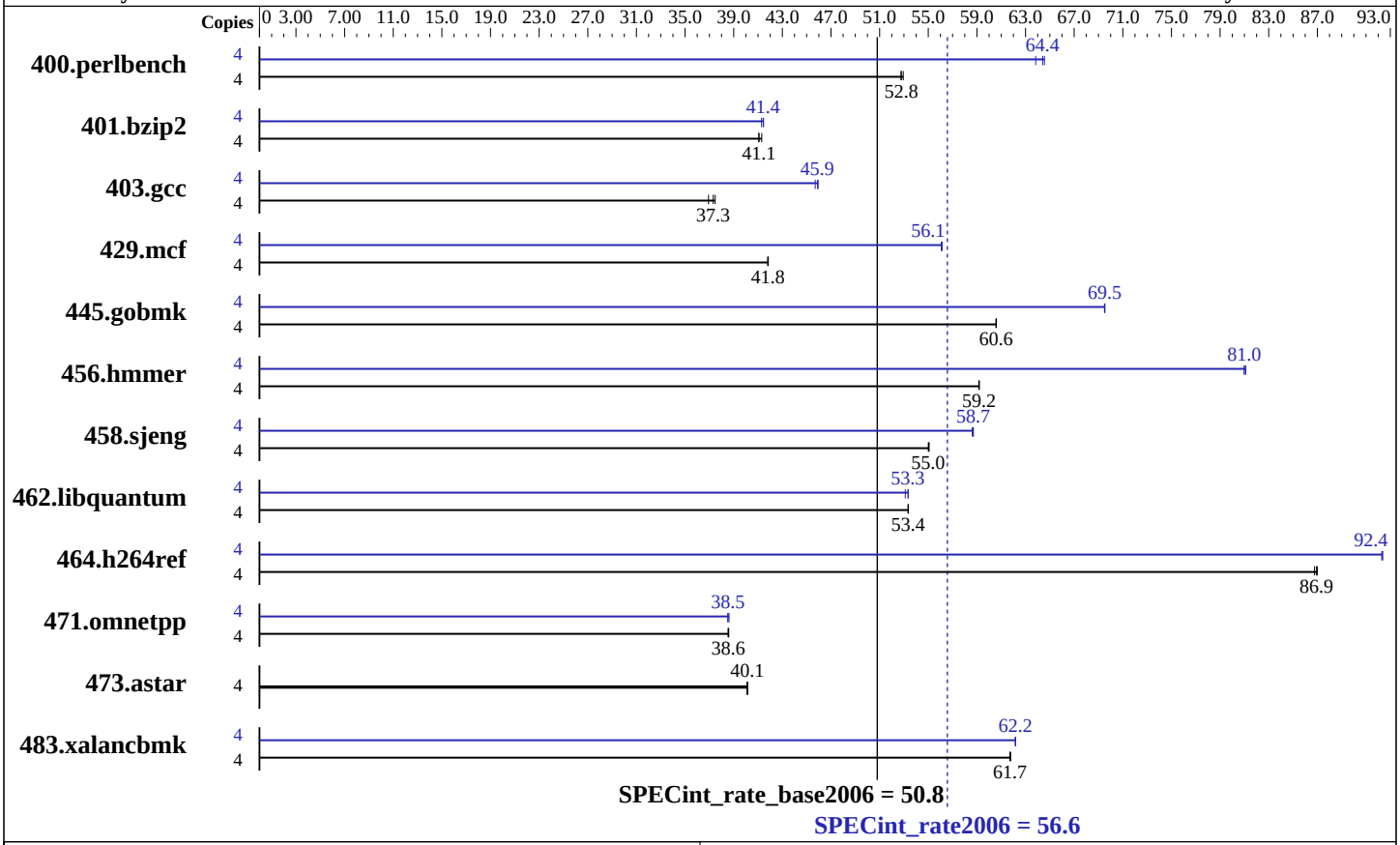
n4250QE (S4985) AMD Opteron 2222 SE

SPECint®_rate2006 = 56.6

SPECint_rate_base2006 = 50.8

CPU2006 license: 49
Test sponsor: Advanced Micro Devices
Tested by: Advanced Micro Devices

Test date: Feb-2007
Hardware Availability: May-2007
Software Availability: Mar-2007



Hardware

CPU Name:	AMD Opteron 2222 SE
CPU Characteristics:	
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 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:	8 GB (8x1GB, DDR2-667 CL4 ECC Reg Dual Rank)
Disk Subsystem:	SATA, 80 GB
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 9 SP3 64-bit kernel
Compiler:	QLogic PathScale Compiler Suite, Release 3.0
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:	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	4	738	52.9	741	52.8	**740**	**52.8**	4	612	63.8	605	64.6	**607**	**64.4**
401.bzip2	4	935	41.3	940	41.1	**940**	**41.1**	4	935	41.3	931	41.5	**932**	**41.4**
403.gcc	4	872	36.9	**863**	**37.3**	859	37.5	4	705	45.7	701	45.9	**702**	**45.9**
429.mcf	4	872	41.8	873	41.8	**873**	**41.8**	4	651	56.1	**650**	**56.1**	650	56.1
445.gobmk	4	**693**	**60.6**	692	60.6	693	60.6	4	604	69.5	**604**	**69.5**	603	69.5
456.hmmer	4	**631**	**59.2**	630	59.2	631	59.2	4	**461**	**81.0**	460	81.1	461	81.0
458.sjeng	4	880	55.0	**880**	**55.0**	879	55.1	4	826	58.6	**825**	**58.7**	824	58.7
462.libquantum	4	**1553**	**53.4**	1554	53.3	1553	53.4	4	1561	53.1	1554	53.3	**1554**	**53.3**
464.h264ref	4	1020	86.8	1017	87.0	**1018**	**86.9**	4	**959**	**92.4**	958	92.4	959	92.3
471.omnetpp	4	**648**	**38.6**	649	38.5	648	38.6	4	647	38.6	649	38.5	**649**	**38.5**
473.astar	4	700	40.1	**700**	**40.1**	700	40.1	4	700	40.1	**700**	**40.1**	700	40.1
483.xalancbmk	4	447	61.8	447	61.7	**447**	**61.7**	4	444	62.2	444	62.2	**444**	**62.2**

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
All memory slots filled on all used CPU sockets

The tested system can be assembled using an SSI-MEB case and
a Silverstone Zeus 650 watt ST65ZF ATX 12V Power Supply.
```

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`

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Base Portability Flags (Continued)

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/amd513K8.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

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Peak Optimization Flags (Continued)

429.mcf: `-m32 -O3 -ipa -L/cpu2006/mpaton/1.0/amd513K8.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`

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/amd513K8.lib/32 -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8 -L/cpu2006/mpaton/1.0/amd513K8.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.20090714.26.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.26.xml`

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