SPEC® CINT2006 Result

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Tyan

(Test Sponsor: Advanced Micro Devices)

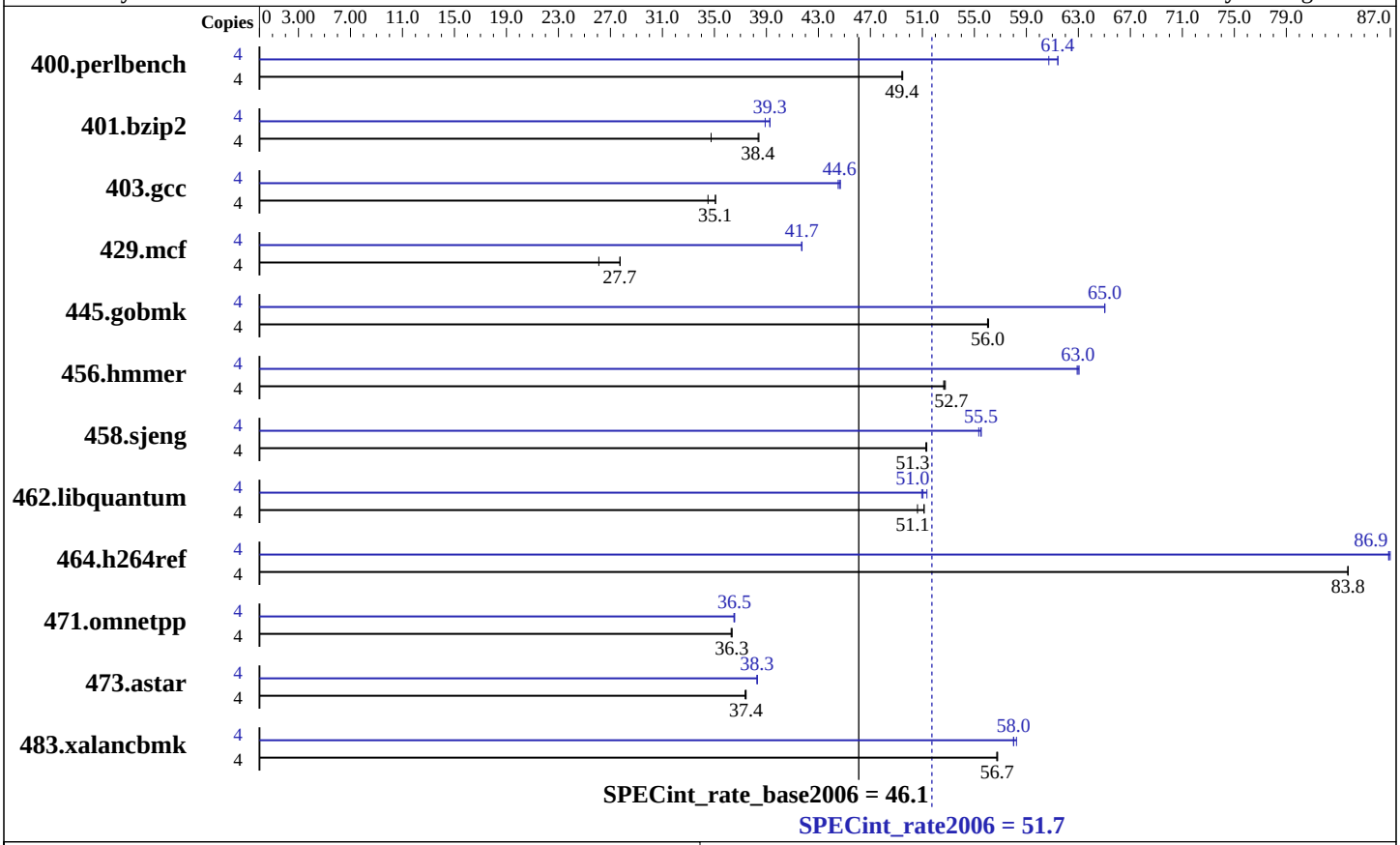
Thunder n4250QE (S4985) Opteron 2220 SE

SPECint®_rate2006 = 51.7

SPECint_rate_base2006 = 46.1

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

Test date: Jul-2006
Hardware Availability: Oct-2006
Software Availability: Aug-2006



Hardware

CPU Name:	AMD Opteron 2220 SE
CPU Characteristics:	
CPU MHz:	2800
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, 74 GB
Other Hardware:	None

Software

Operating System:	Suse Linux Enterprise Server 9 SP3 64-bit kernel
Compiler:	QLogic PathScale Compiler Suite, Release 2.5 SmartHeap 8.0 32 bit Library for Linux
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:	None

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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	790	49.5	**791**	**49.4**	791	49.4	4	644	60.7	**636**	**61.4**	636	61.4
401.bzip2	4	1111	34.7	1005	38.4	**1006**	**38.4**	4	992	38.9	**983**	**39.3**	983	39.3
403.gcc	4	918	35.1	933	34.5	**918**	**35.1**	4	723	44.5	720	44.7	**722**	**44.6**
429.mcf	4	1397	26.1	**1316**	**27.7**	1314	27.8	4	**874**	**41.7**	874	41.7	874	41.7
445.gobmk	4	749	56.0	748	56.1	**749**	**56.0**	4	**645**	**65.0**	645	65.0	645	65.0
456.hmmer	4	**708**	**52.7**	709	52.6	707	52.8	4	593	62.9	592	63.1	**593**	**63.0**
458.sjeng	4	**944**	**51.3**	943	51.3	944	51.3	4	875	55.3	**872**	**55.5**	872	55.5
462.libquantum	4	1637	50.6	**1621**	**51.1**	1621	51.1	4	1627	51.0	1614	51.3	**1624**	**51.0**
464.h264ref	4	1057	83.7	**1057**	**83.8**	1057	83.8	4	1019	86.9	**1019**	**86.9**	1018	87.0
471.omnetpp	4	688	36.4	689	36.3	**688**	**36.3**	4	**684**	**36.5**	684	36.6	685	36.5
473.astar	4	750	37.4	752	37.4	**750**	**37.4**	4	733	38.3	733	38.3	**733**	**38.3**
483.xalancbmk	4	486	56.8	486	56.7	**486**	**56.7**	4	474	58.2	476	58.0	**476**	**58.0**

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
All memory slots filled on all chips

The tested system can be assembled using any 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

C++ benchmarks:
-Ofast -m32
-L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap

Base Other Flags

C benchmarks:
-IPA:max_jobs=2

C++ benchmarks:
-IPA:max_jobs=2

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`

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 -O2 -ipa -L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -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 -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/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap`

473.astar: `-fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast -m32 -L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8 -L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap`

Peak Other Flags

C benchmarks:
`-IPA:max_jobs=2`

C++ benchmarks:
`-IPA:max_jobs=2`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.25.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.25.xml

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