SPEC® CINT2006 Result

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Tyan

(Test Sponsor: Advanced Micro Devices)

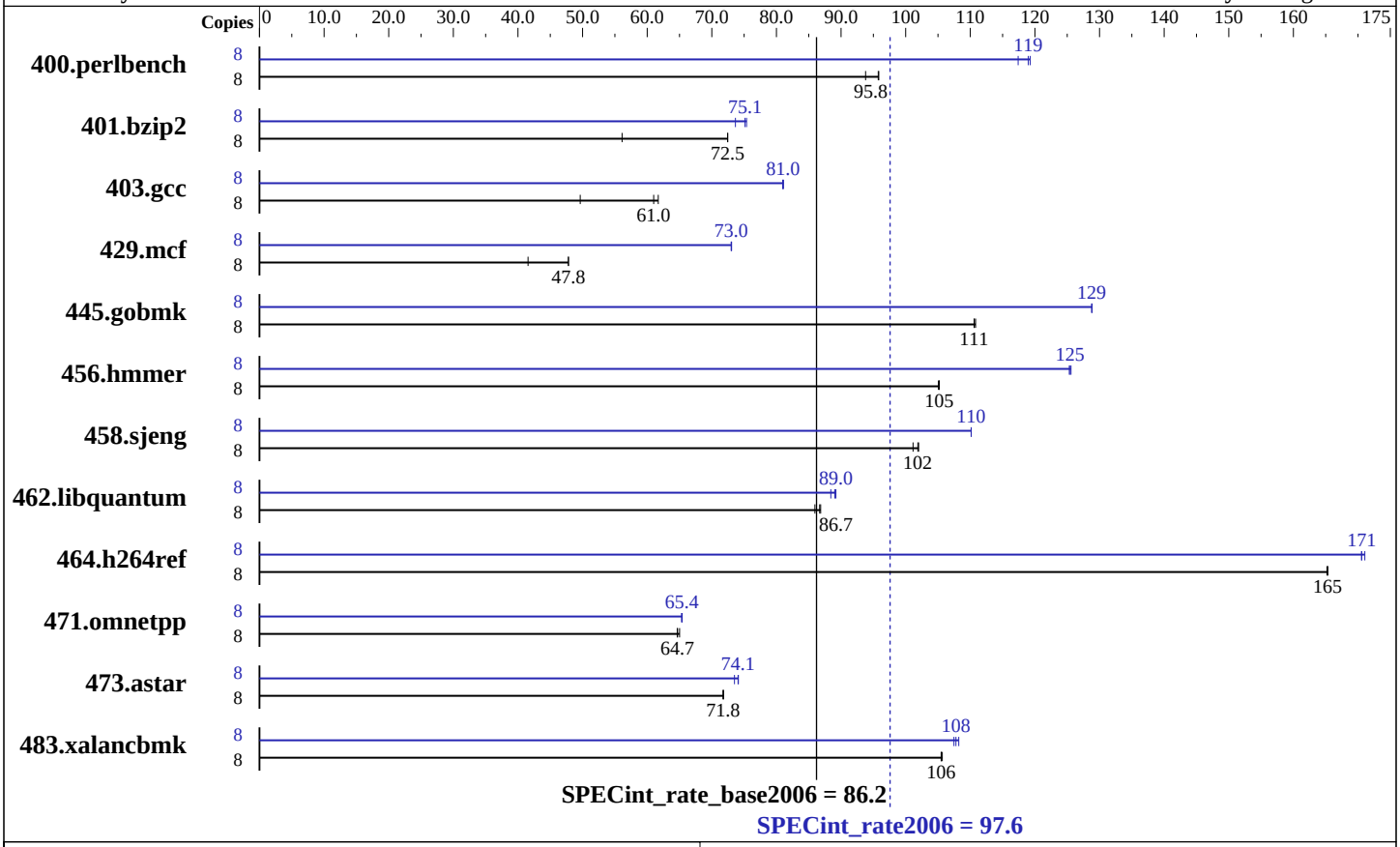
Tyan n4250QE (S4985) AMD Opteron 8220

SPECint®_rate2006 = 97.6

SPECint_rate_base2006 = 86.2

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

Test date: Jul-2006
Hardware Availability: Feb-2007
Software Availability: Aug-2006



Hardware

CPU Name:	AMD Opteron 8220
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	1,2,4 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:	16 GB (16x1GB, DDR2-667 CL4 ECC Reg Dual Rank)
Disk Subsystem:	SATA, 74 GB
Other Hardware:	None

Software

Operating System:	SuSE SLES9SP3 64-bit kernel
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:	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	833	93.8	**816**	**95.8**	816	95.8	8	666	117	655	119	**657**	**119**
401.bzip2	8	1376	56.1	**1066**	**72.5**	1065	72.5	8	1048	73.7	**1027**	**75.1**	1024	75.4
403.gcc	8	1297	49.6	**1056**	**61.0**	1044	61.7	8	795	81.0	**795**	**81.0**	794	81.1
429.mcf	8	1755	41.6	**1526**	**47.8**	1526	47.8	8	**999**	**73.0**	999	73.0	999	73.1
445.gobmk	8	757	111	**759**	**111**	759	111	8	651	129	**652**	**129**	652	129
456.hmmer	8	709	105	710	105	**710**	**105**	8	594	126	**595**	**125**	596	125
458.sjeng	8	957	101	**950**	**102**	949	102	8	879	110	879	110	**879**	**110**
462.libquantum	8	**1912**	**86.7**	1928	86.0	1909	86.8	8	1875	88.4	**1862**	**89.0**	1858	89.2
464.h264ref	8	1072	165	1071	165	**1071**	**165**	8	1038	171	1035	171	**1038**	**171**
471.omnetpp	8	773	64.6	769	65.0	**773**	**64.7**	8	764	65.4	**765**	**65.4**	765	65.3
473.astar	8	783	71.7	**782**	**71.8**	782	71.8	8	764	73.5	**758**	**74.1**	758	74.1
483.xalancbmk	8	**523**	**106**	523	105	522	106	8	**512**	**108**	510	108	514	107

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 used CPU sockets
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`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`

Continued on next page

Base Portability Flags (Continued)

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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