SPEC® CINT2006 Result

Tyan
(Test Sponsor: Advanced Micro Devices)

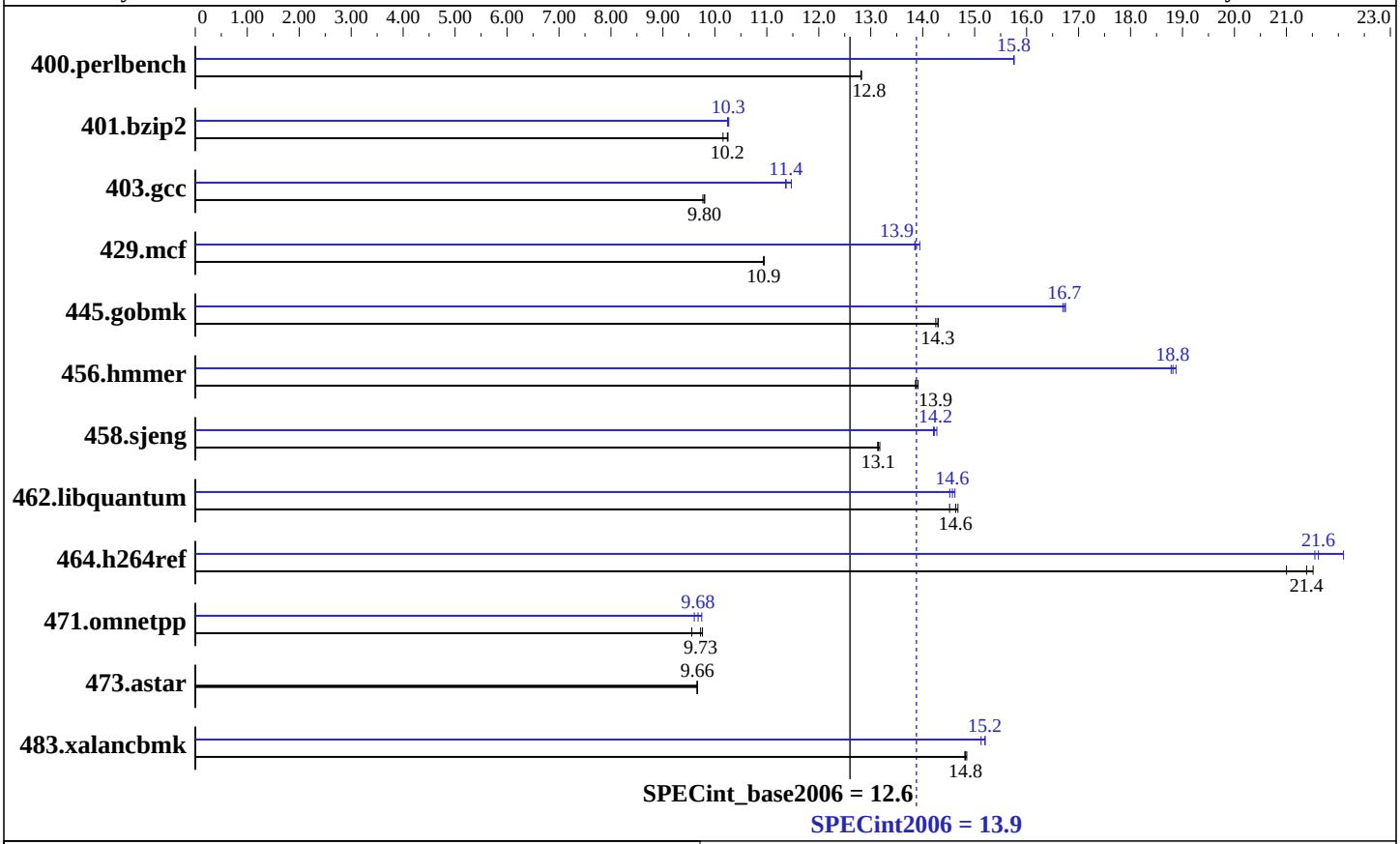
Thunder K8QW (S4881) Opteron 890

SPECint®2006 = 13.9

SPECint_base2006 = 12.6

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

Test date: Apr-2007
Hardware Availability: Feb-2007
Software Availability: Feb-2007



Hardware

CPU Name:	AMD Opteron 890
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 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:	4 GB (4x1GB, DDR-400 CL3 ECC Reg Dual Rank)
Disk Subsystem:	SATA, 250 GB
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	762	12.8	763	12.8	**762**	**12.8**	**620**	**15.8**	620	15.8	620	15.8
401.bzip2	941	10.3	950	10.2	**942**	**10.2**	940	10.3	**941**	**10.3**	942	10.2
403.gcc	**821**	**9.80**	824	9.77	821	9.80	702	11.5	**708**	**11.4**	709	11.4
429.mcf	**833**	**10.9**	833	11.0	834	10.9	659	13.8	**658**	**13.9**	654	13.9
445.gobmk	736	14.3	734	14.3	**734**	**14.3**	628	16.7	626	16.7	**627**	**16.7**
456.hmmer	**672**	**13.9**	671	13.9	673	13.9	**496**	**18.8**	497	18.8	494	18.9
458.sjeng	921	13.1	**920**	**13.1**	918	13.2	852	14.2	848	14.3	**851**	**14.2**
462.libquantum	1427	14.5	1412	14.7	**1416**	**14.6**	1427	14.5	**1422**	**14.6**	1417	14.6
464.h264ref	1029	21.5	1054	21.0	**1035**	**21.4**	1027	21.5	1001	22.1	**1024**	**21.6**
471.omnetpp	**643**	**9.73**	640	9.76	654	9.56	651	9.60	**646**	**9.68**	641	9.75
473.astar	726	9.67	**726**	**9.66**	727	9.65	726	9.67	**726**	**9.66**	727	9.65
483.xalancbmk	**465**	**14.8**	465	14.8	466	14.8	454	15.2	456	15.1	**454**	**15.2**

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

General Notes

```
All memory slots filled on all used CPU sockets.
Memory bank interleave is enabled.
The tested system can be assembled using an SSI-MEB case and
a Emacs PSL-6701P 700 watt 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`

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Base Portability Flags (Continued)

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

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Peak Optimization Flags (Continued)

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`

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`

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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