



SPEC® CINT2006 Result

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Tyan

SPECint®2006 = 13.9

Thunder K8QW (S4881) Opteron 890

SPECint_base2006 = 12.6

CPU2006 license: 49

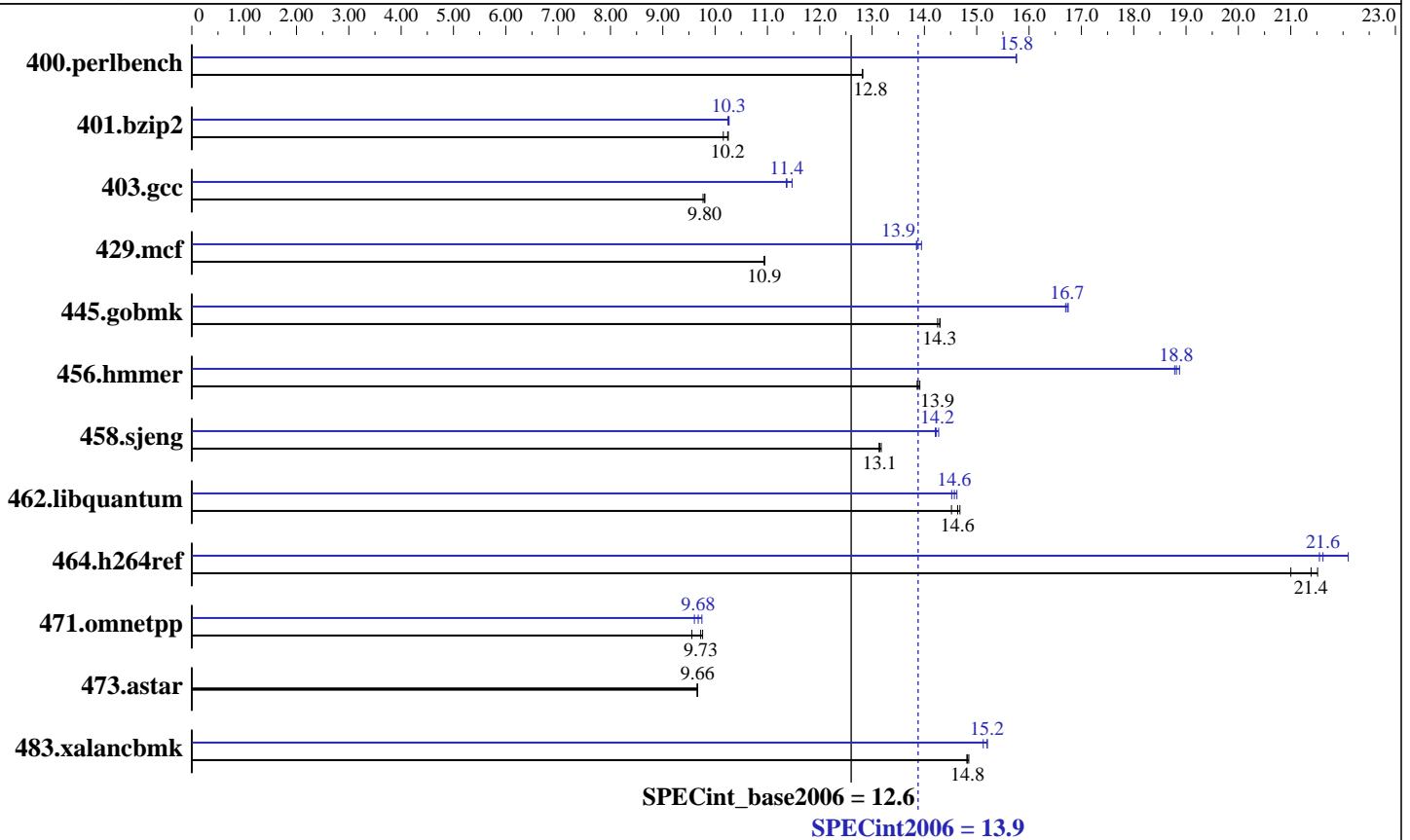
Test sponsor: Advanced Micro Devices

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

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

Same as Base Compiler Invocation

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

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Peak Optimization Flags (Continued)

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.hmmr: -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 -lsmarheap

473.astar: basepeak = yes

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

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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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 14 19:20:20 2009 by SPEC CPU2006 PS/PDF formatter v6323.