SPEC® CINT2006 Result

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Fujitsu Siemens Computers

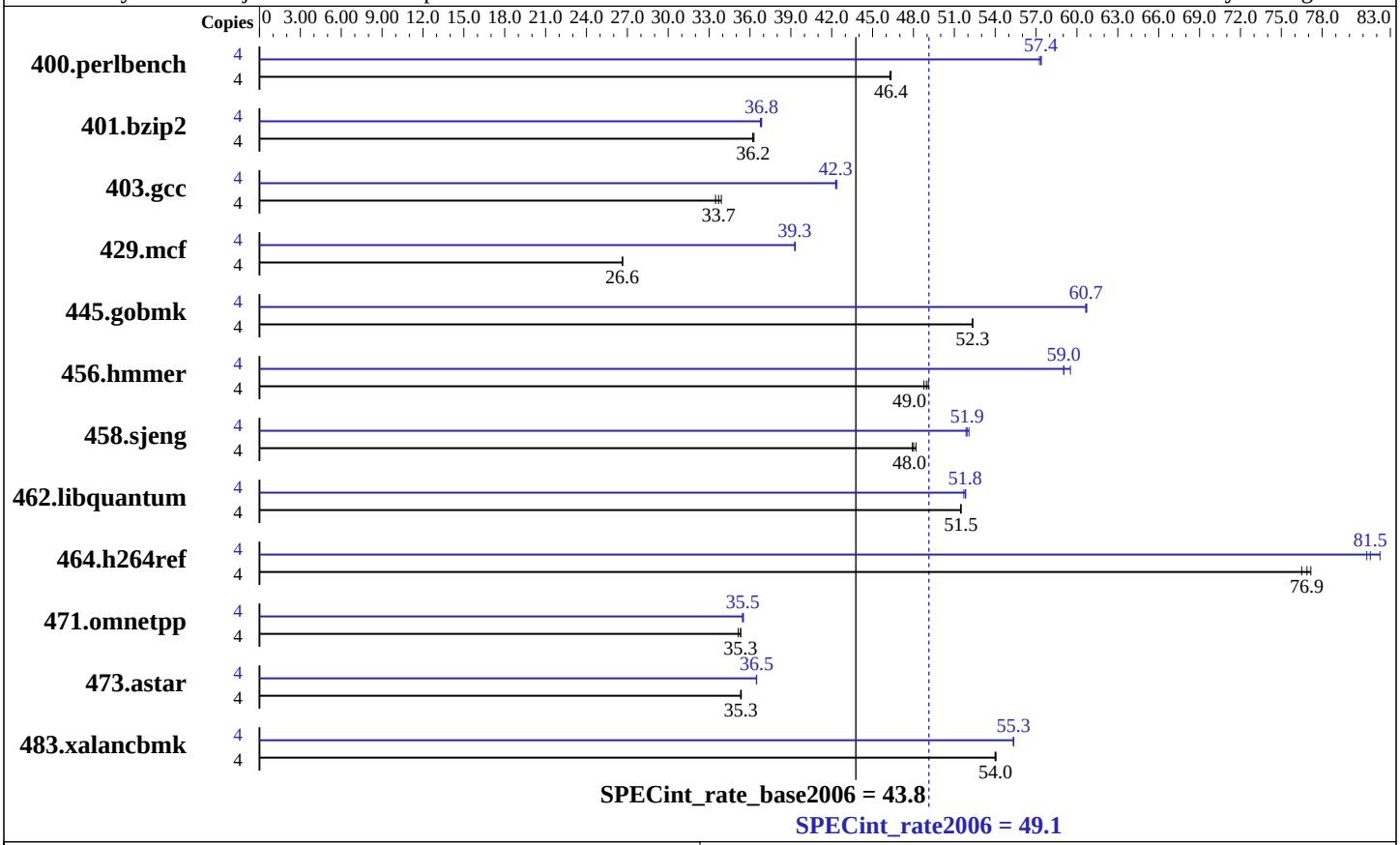
CELSIUS V840, AMD Opteron 2218

SPECint®_rate2006 = 49.1

SPECint_rate_base2006 = 43.8

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Jan-2007
Hardware Availability: Nov-2006
Software Availability: Aug-2006



Hardware

CPU Name:	AMD Opteron 2218
CPU Characteristics:	Dual Core, 2.6 GHz, 2 MB L2-cache
CPU MHz:	2600
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:	16 GB (8x2GB DDR2-667 CL5 dual rank ECC DIMMs registered)
Disk Subsystem:	SATA II, 80 GB
Other Hardware:	None

Software

Operating System:	SLES 10 for AMD64/EM64T
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 SuSE 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	845	46.3	843	46.4	**843**	**46.4**	4	683	57.2	**681**	**57.4**	681	57.4
401.bzip2	4	1063	36.3	1066	36.2	**1065**	**36.2**	4	**1048**	**36.8**	1050	36.8	1047	36.8
403.gcc	4	950	33.9	**956**	**33.7**	962	33.5	4	761	42.3	**761**	**42.3**	760	42.4
429.mcf	4	**1369**	**26.6**	1369	26.7	1370	26.6	4	928	39.3	928	39.3	**928**	**39.3**
445.gobmk	4	802	52.3	802	52.3	**802**	**52.3**	4	**691**	**60.7**	692	60.6	691	60.7
456.hmmer	4	765	48.8	760	49.1	**762**	**49.0**	4	627	59.5	**632**	**59.0**	632	59.0
458.sjeng	4	**1008**	**48.0**	1004	48.2	1010	47.9	4	929	52.1	**932**	**51.9**	933	51.9
462.libquantum	4	**1610**	**51.5**	1610	51.5	1610	51.5	4	1599	51.8	**1600**	**51.8**	1603	51.7
464.h264ref	4	1157	76.5	1147	77.2	**1151**	**76.9**	4	**1086**	**81.5**	1076	82.2	1089	81.3
471.omnetpp	4	**708**	**35.3**	712	35.1	708	35.3	4	705	35.4	**705**	**35.5**	704	35.5
473.astar	4	795	35.3	794	35.4	**795**	**35.3**	4	770	36.5	**770**	**36.5**	770	36.5
483.xalancbmk	4	511	54.1	511	54.0	**511**	**54.0**	4	499	55.4	**499**	**55.3**	499	55.3

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

Operating System Notes

```
powersave -f is applied to set CPU to maximum frequency prior to run
stacksize is set to unlimited prior to run
taskset utility used to bind CPU(s) to processes
numactl utility used to assign to each chip its local memory
```

General Notes

```
Binaries supplied by AMD
Compilation done on an Opteron-based system
         running SuSE 9.3 (Kernel 2.6.5.7)

BIOS default settings with
Node memory interleave disabled, SRAT enabled

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http://www.fujitsu-siemens.com/countries
```

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
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

Continued on next page

Peak Portability Flags (Continued)

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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