SPEC® CINT2006 Result

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Fujitsu Siemens Computers

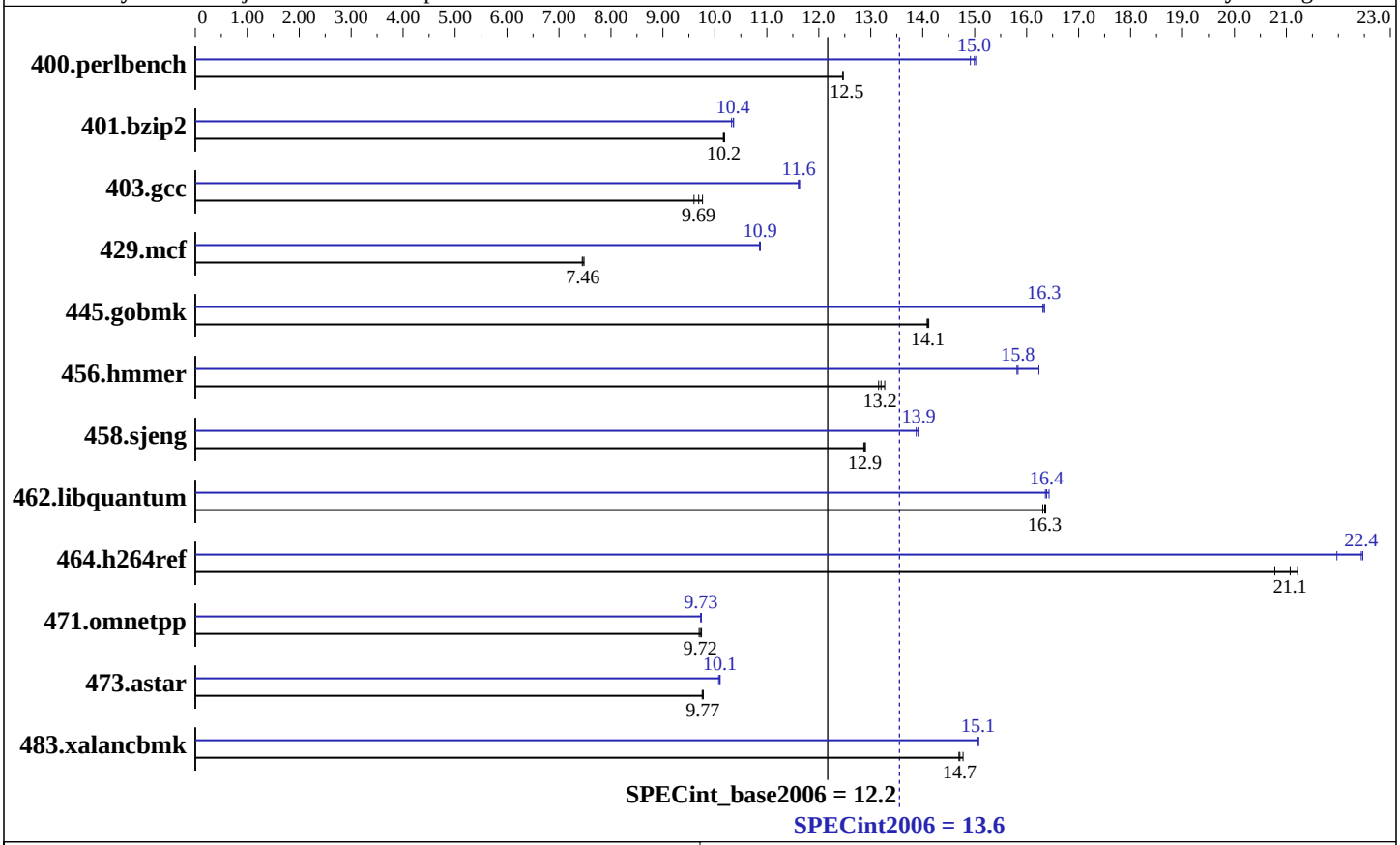
CELSIUS V840, AMD Opteron 2220

SPECint®2006 = 13.6

SPECint_base2006 = 12.2

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

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



Hardware

CPU Name:	AMD Opteron 2220
CPU Characteristics:	Dual Core, 2.8 GHz, 2 MB L2-cache
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:	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 2.5
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:	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	**784**	**12.5**	783	12.5	799	12.2	**652**	**15.0**	650	15.0	655	14.9
401.bzip2	947	10.2	**949**	**10.2**	950	10.2	935	10.3	931	10.4	**932**	**10.4**
403.gcc	825	9.76	**831**	**9.69**	839	9.60	692	11.6	693	11.6	**693**	**11.6**
429.mcf	1219	7.48	1225	7.45	**1222**	**7.46**	**839**	**10.9**	839	10.9	840	10.9
445.gobmk	745	14.1	743	14.1	**744**	**14.1**	642	16.3	643	16.3	**642**	**16.3**
456.hmmer	**707**	**13.2**	709	13.2	703	13.3	**589**	**15.8**	590	15.8	575	16.2
458.sjeng	**939**	**12.9**	940	12.9	938	12.9	869	13.9	872	13.9	**870**	**13.9**
462.libquantum	1270	16.3	1266	16.4	**1267**	**16.3**	1261	16.4	**1265**	**16.4**	1266	16.4
464.h264ref	**1050**	**21.1**	1065	20.8	1043	21.2	**986**	**22.4**	1007	22.0	985	22.5
471.omnetpp	**643**	**9.72**	641	9.74	645	9.70	642	9.74	642	9.73	**642**	**9.73**
473.astar	720	9.76	718	9.78	**719**	**9.77**	697	10.1	**695**	**10.1**	695	10.1
483.xalancbmk	467	14.8	**469**	**14.7**	469	14.7	458	15.1	**458**	**15.1**	458	15.1

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
```

General Notes

```
Binaries are generated 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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```

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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