SPEC® CINT2006 Result
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Fujitsu Siemens Computers

CELSIUS V840, AMD Opteron 2218

$SPECint®\_rate2006 =$ 49.1

$SPECint\_rate\_base2006 =$ 43.8
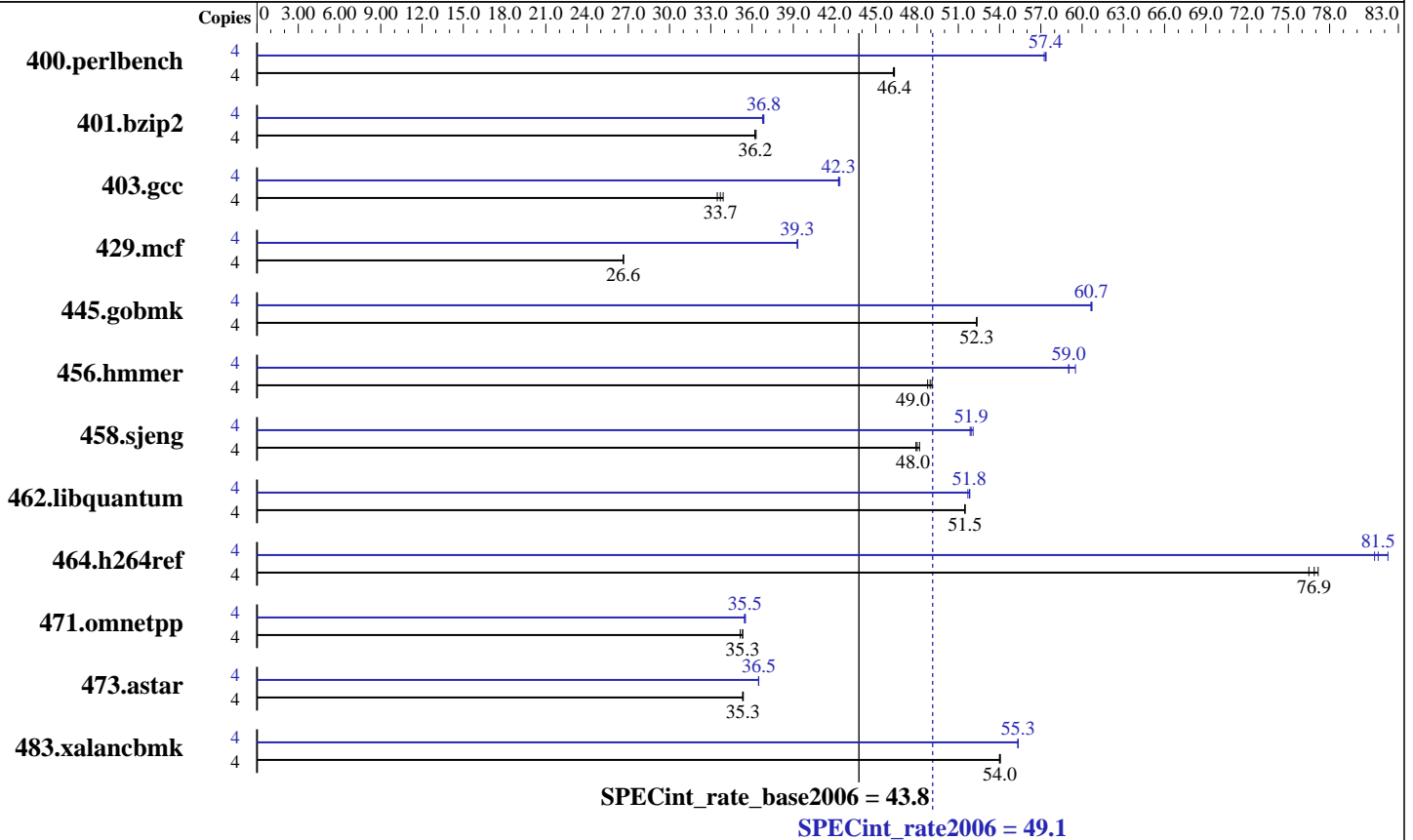
CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

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

Copies 0 3.00 6.00 9.00 12.0 15.0 18.0 21.0 24.0 27.0 30.0 33.0 36.0 39.0 42.0 45.0 48.0 51.0 54.0 57.0 60.0 63.0 66.0 69.0 72.0 75.0 78.0 83.0

Benchmark	Copies	Value
400.perlbench	4	57.4
	4	46.4
401.bzip2	4	36.8
	4	36.2
403.gcc	4	42.3
	4	33.7
429.mcf	4	39.3
	4	26.6
445.gobmk	4	60.7
	4	52.3
456.hmmer	4	59.0
	4	49.0
458.sjeng	4	51.9
	4	48.0
462.libquantum	4	51.8
	4	51.5
464.h264ref	4	81.5
	4	76.9
471.omnetpp	4	35.5
	4	35.3
473.astar	4	36.5
	4	35.3
483.xalancbmk	4	55.3
	4	54.0

SPECint_rate_base2006 = 43.8

SPECint_rate2006 = 49.1

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
```

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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
```

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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
```

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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

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

Tested with SPEC CPU2006 v1.0.
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