SPEC® CINT2006 Result

Fujitsu Siemens Computers

PRIMERGY RX330 S1, AMD Opteron 2214, 2.20 GHz

$SPECint®\_rate2006 =$ 22.6

$SPECint\_rate\_base2006 =$ 20.4
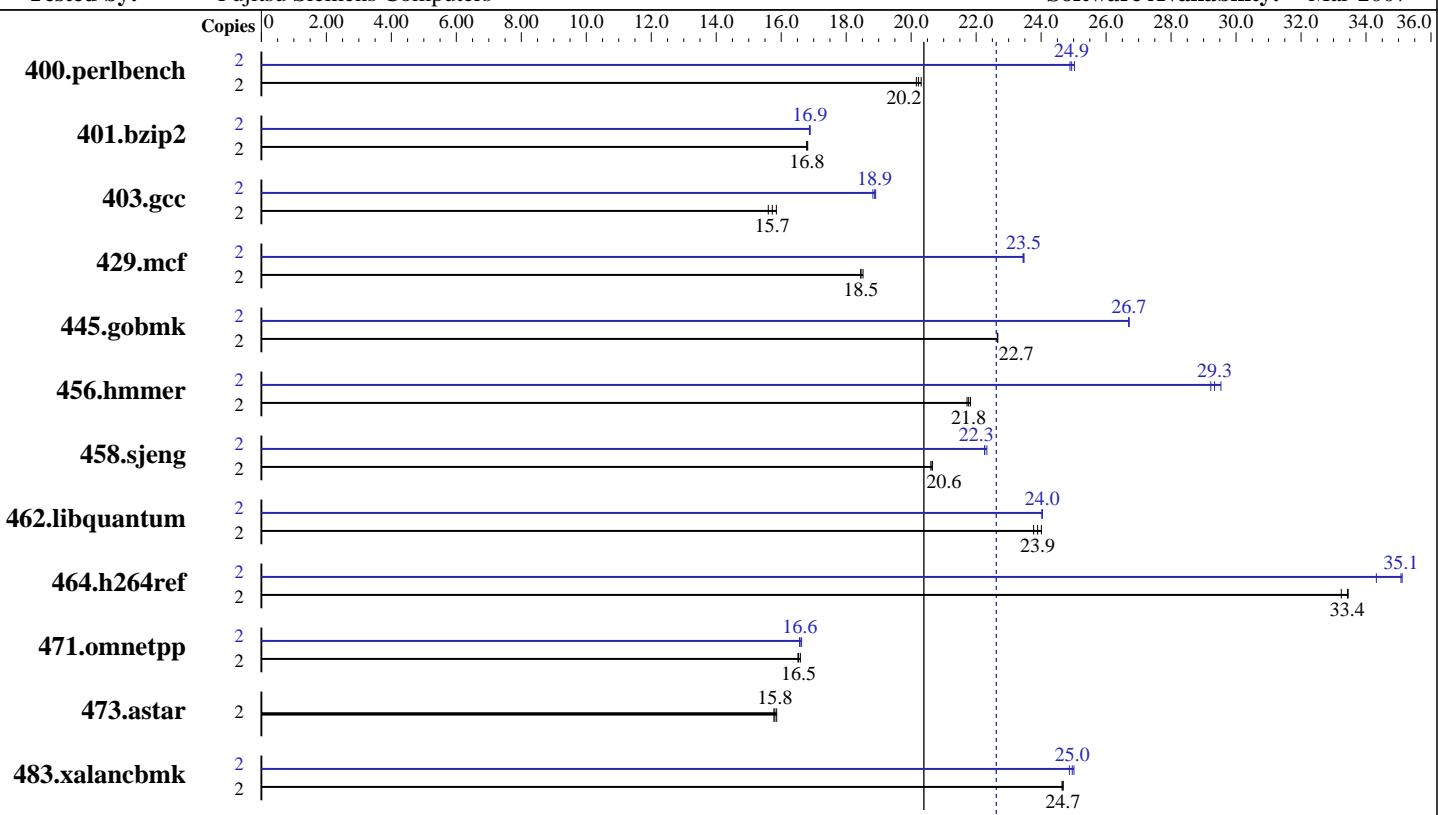
CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Jun-2007
Hardware Availability: May-2007
Software Availability: Mar-2007

Benchmark	Copies	Result
400.perlbench	2	24.9
400.perlbench	2	20.2
401.bzip2	2	16.9
401.bzip2	2	16.8
403.gcc	2	18.9
403.gcc	2	15.7
429.mcf	2	23.5
429.mcf	2	18.5
445.gobmk	2	26.7
445.gobmk	2	22.7
456.hmmer	2	29.3
456.hmmer	2	21.8
458.sjeng	2	22.3
458.sjeng	2	20.6
462.libquantum	2	24.0
462.libquantum	2	23.9
464.h264ref	2	35.1
464.h264ref	2	33.4
471.omnetpp	2	16.6
471.omnetpp	2	16.5
473.astar	2	15.8
483.xalancbmk	2	25.0
483.xalancbmk	2	24.7

SPECint_rate_base2006 = 20.4

SPECint_rate2006 = 22.6

Hardware

CPU Name:	AMD Opteron 2214
CPU Characteristics:	2214
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 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:	32 GB (8x4 GB DDR2 PC2-5300P, 2 rank, CAS 5-5-5, with ECC)
Disk Subsystem:	SAS (36GB 15.4 krpm)
Other Hardware:	None

Software

Operating System:	SLES 10 for AMD64/EM64T
Compiler:	QLogic PathScale Compiler Suite, - Release 3.0
Auto Parallel:	No
File System:	ReiserFS
System State:	Multi-user run level 3
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap 8.1

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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	2	**966**	**20.2**	969	20.2	962	20.3	2	785	24.9	**784**	**24.9**	781	25.0
401.bzip2	2	1148	16.8	1150	16.8	**1149**	**16.8**	2	1144	16.9	1143	16.9	**1143**	**16.9**
403.gcc	2	1016	15.9	**1024**	**15.7**	1032	15.6	2	852	18.9	855	18.8	**853**	**18.9**
429.mcf	2	985	18.5	989	18.5	**988**	**18.5**	2	778	23.4	777	23.5	**777**	**23.5**
445.gobmk	2	926	22.7	926	22.7	**926**	**22.7**	2	**786**	**26.7**	786	26.7	786	26.7
456.hmmer	2	855	21.8	859	21.7	**857**	**21.8**	2	639	29.2	632	29.5	**636**	**29.3**
458.sjeng	2	1172	20.7	1174	20.6	**1172**	**20.6**	2	**1087**	**22.3**	1084	22.3	1087	22.3
462.libquantum	2	1743	23.8	**1735**	**23.9**	1726	24.0	2	1725	24.0	**1724**	**24.0**	1724	24.0
464.h264ref	2	1323	33.5	1332	33.2	**1324**	**33.4**	2	1290	34.3	**1262**	**35.1**	1261	35.1
471.omnetpp	2	753	16.6	**756**	**16.5**	757	16.5	2	752	16.6	**754**	**16.6**	755	16.6
473.astar	2	885	15.9	890	15.8	**888**	**15.8**	2	885	15.9	890	15.8	**888**	**15.8**
483.xalancbmk	2	559	24.7	**559**	**24.7**	560	24.6	2	**553**	**25.0**	552	25.0	555	24.9

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' has been used to bind processes to CPUs

General Notes

BIOS settings:
Node Interleave = disabled

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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 -OPT:malloc_alg=1
```

C++ benchmarks:
```
    -Ofast -m32 -L/opt/SmartHeap_8.1/lib -lsmartheap
```

Base Other Flags

C benchmarks:
```
    -IPA:max_jobs=4
```

C++ benchmarks:
```
    -IPA:max_jobs=4
```

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
```

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Test sponsor: Fujitsu Siemens Computers		**Hardware Availability:**	May-2007
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Peak Portability Flags (Continued)

```
       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/opt/SmartHeap_8.1/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 -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/opt/SmartHeap_8.1/lib -lsmartheap

       473.astar: basepeak = yes

   483.xalancbmk: -Ofast -m32 -OPT:unroll_times_max=8
                  -L/opt/SmartHeap_8.1/lib -lsmartheap
```

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Tested by:	Fujitsu Siemens Computers	**Software Availability:**	Mar-2007

Peak Other Flags

C benchmarks:
    -IPA:max_jobs=4

C++ benchmarks:
    -IPA:max_jobs=4

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.10.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.10.xml

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

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