



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

### SPECint®\_rate2006 = 19.1

PRIMERGY RX330 S1, AMD Opteron 2210, 1.8 GHz

### SPECint\_rate\_base2006 = 17.3

CPU2006 license: 22

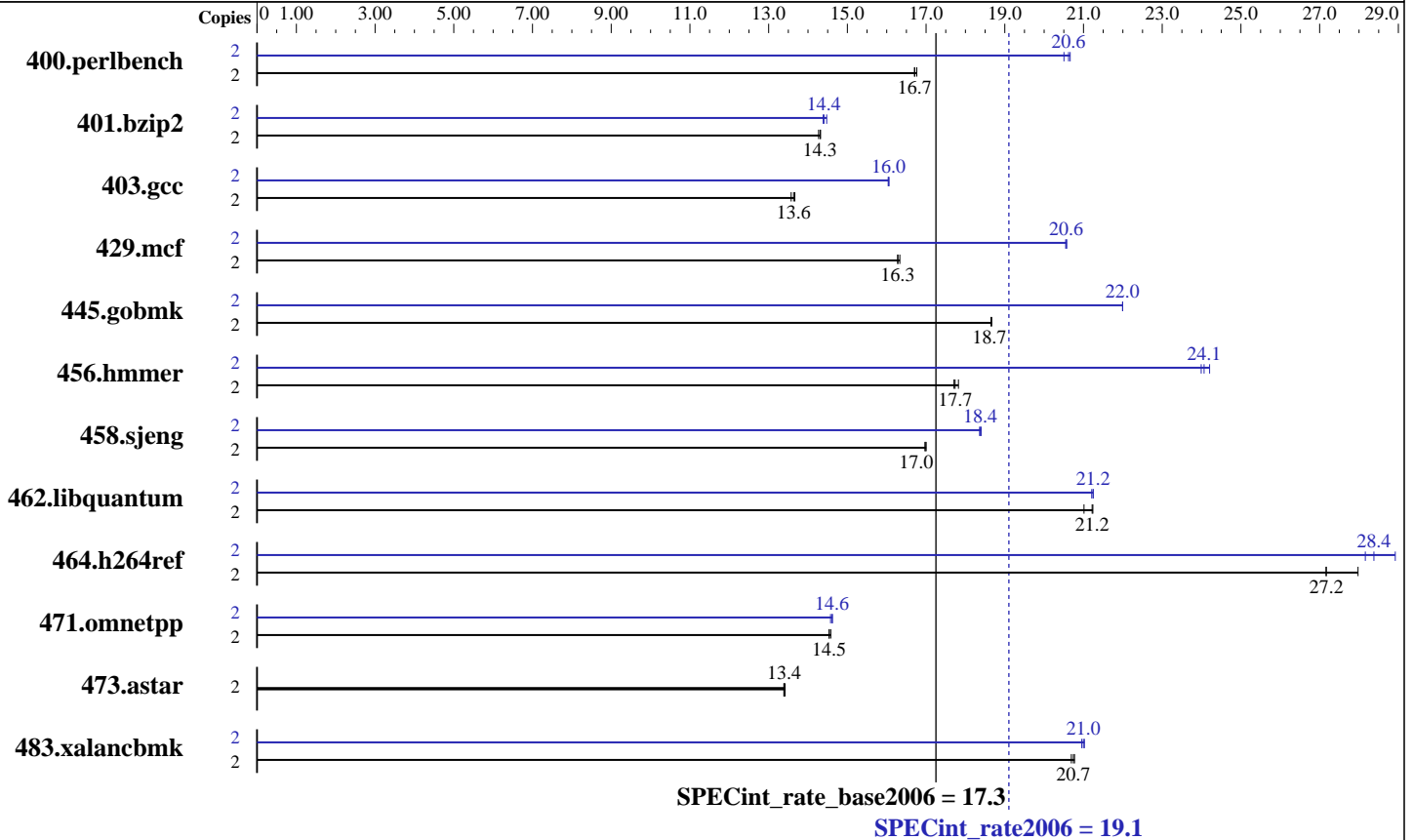
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Apr-2007

Hardware Availability: May-2007

Software Availability: Mar-2007



### Hardware

CPU Name: AMD Opteron 2210  
 CPU Characteristics: 2210  
 CPU MHz: 1800  
 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	1170	16.7	1166	16.8	<b>1169</b>	<b>16.7</b>	2	946	20.7	<b>948</b>	<b>20.6</b>	953	20.5
401.bzip2	2	<b>1349</b>	<b>14.3</b>	1348	14.3	1353	14.3	2	1342	14.4	1333	14.5	<b>1340</b>	<b>14.4</b>
403.gcc	2	<b>1181</b>	<b>13.6</b>	1178	13.7	1186	13.6	2	<b>1003</b>	<b>16.0</b>	1004	16.0	1003	16.1
429.mcf	2	1117	16.3	<b>1120</b>	<b>16.3</b>	1120	16.3	2	887	20.6	<b>887</b>	<b>20.6</b>	888	20.5
445.gobmk	2	1124	18.7	<b>1125</b>	<b>18.7</b>	1125	18.7	2	954	22.0	<b>954</b>	<b>22.0</b>	954	22.0
456.hammer	2	<b>1052</b>	<b>17.7</b>	1054	17.7	1047	17.8	2	778	24.0	<b>775</b>	<b>24.1</b>	771	24.2
458.sjeng	2	1426	17.0	<b>1425</b>	<b>17.0</b>	1423	17.0	2	<b>1317</b>	<b>18.4</b>	1315	18.4	1318	18.4
462.libquantum	2	1972	21.0	1951	21.2	<b>1953</b>	<b>21.2</b>	2	1950	21.2	<b>1951</b>	<b>21.2</b>	1954	21.2
464.h264ref	2	<b>1629</b>	<b>27.2</b>	1582	28.0	1630	27.2	2	<b>1560</b>	<b>28.4</b>	1530	28.9	1572	28.2
471.omnetpp	2	857	14.6	860	14.5	<b>860</b>	<b>14.5</b>	2	855	14.6	<b>855</b>	<b>14.6</b>	858	14.6
473.astar	2	1046	13.4	<b>1048</b>	<b>13.4</b>	1049	13.4	2	1046	13.4	<b>1048</b>	<b>13.4</b>	1049	13.4
483.xalancbmk	2	664	20.8	<b>665</b>	<b>20.7</b>	667	20.7	2	656	21.0	<b>657</b>	<b>21.0</b>	659	21.0

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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## 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 -lsmarheap

## 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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## 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 -lsmarheap

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/opt/SmartHeap\_8.1/lib -lsmarheap

473.astar: basepeak = yes

483.xalancbmk: -Ofast -m32 -OPT:unroll\_times\_max=8  
 -L/opt/SmartHeap\_8.1/lib -lsmarheap



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## 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.20090714.31.html](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.31.html)

You can also download the XML flags source by saving the following link:

[http://www.spec.org/cpu2006/flags/CPU2006\\_flags.20090714.31.xml](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.31.xml)

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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