



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

**SPECint®\_rate2006 = 28.2**

PRIMERGY RX330 S1, AMD Opteron 2222, 3.0 GHz

**SPECint\_rate\_base2006 = 25.3**

CPU2006 license: 22

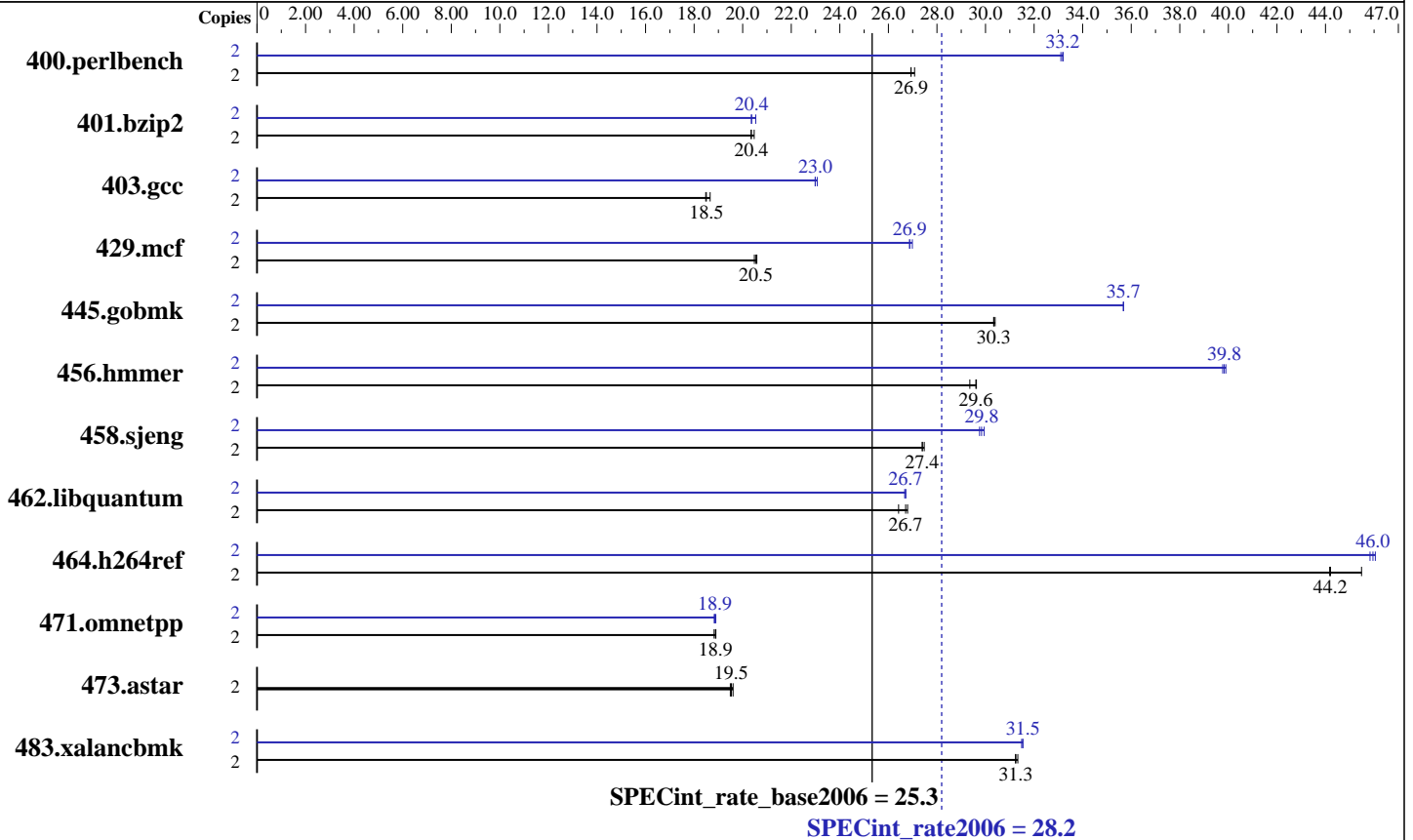
Test date: Jun-2007

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Aug-2007

Tested by: Fujitsu Siemens Computers

Software Availability: Mar-2007



### Hardware

CPU Name: AMD Opteron 2222  
 CPU Characteristics: 2222  
 CPU MHz: 3000  
 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: 16 GB (8x2 GB DDR2 PC2-5300P, 2 rank, CAS 5-5-5, with ECC)  
 Disk Subsystem: Seagate ST336754SS (SAS, 36GB, 15000rpm)  
 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	<b>726</b>	<b>26.9</b>	722	27.1	726	26.9	2	589	33.2	590	33.1	<b>589</b>	<b>33.2</b>
401.bzip2	2	<b>948</b>	<b>20.4</b>	943	20.5	949	20.3	2	940	20.5	948	20.4	<b>947</b>	<b>20.4</b>
403.gcc	2	863	18.7	871	18.5	<b>870</b>	<b>18.5</b>	2	<b>700</b>	<b>23.0</b>	701	23.0	698	23.1
429.mcf	2	886	20.6	<b>888</b>	<b>20.5</b>	891	20.5	2	676	27.0	679	26.9	<b>679</b>	<b>26.9</b>
445.gobmk	2	690	30.4	<b>691</b>	<b>30.3</b>	692	30.3	2	<b>588</b>	<b>35.7</b>	588	35.7	588	35.7
456.hammer	2	630	29.6	<b>630</b>	<b>29.6</b>	636	29.4	2	469	39.8	<b>469</b>	<b>39.8</b>	468	39.9
458.sjeng	2	<b>883</b>	<b>27.4</b>	883	27.4	881	27.5	2	813	29.8	808	29.9	<b>811</b>	<b>29.8</b>
462.libquantum	2	1569	26.4	1547	26.8	<b>1552</b>	<b>26.7</b>	2	<b>1552</b>	<b>26.7</b>	1551	26.7	1554	26.7
464.h264ref	2	<b>1001</b>	<b>44.2</b>	973	45.5	1002	44.2	2	966	45.8	<b>963</b>	<b>46.0</b>	961	46.1
471.omnetpp	2	662	18.9	<b>662</b>	<b>18.9</b>	664	18.8	2	662	18.9	664	18.8	<b>663</b>	<b>18.9</b>
473.astar	2	716	19.6	720	19.5	<b>719</b>	<b>19.5</b>	2	716	19.6	720	19.5	<b>719</b>	<b>19.5</b>
483.xalancbmk	2	440	31.3	442	31.2	<b>442</b>	<b>31.3</b>	2	<b>438</b>	<b>31.5</b>	438	31.5	438	31.5

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  
'numactl' and 'taskset' have 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 -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.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 -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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## 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](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](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.10.xml)

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

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