



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu Siemens Computers

## SPECint<sup>®</sup>\_rate2006 = 131

### CELSIUS R550, Intel Xeon X5460 processor

## SPECint\_rate\_base2006 = 110

CPU2006 license: 22

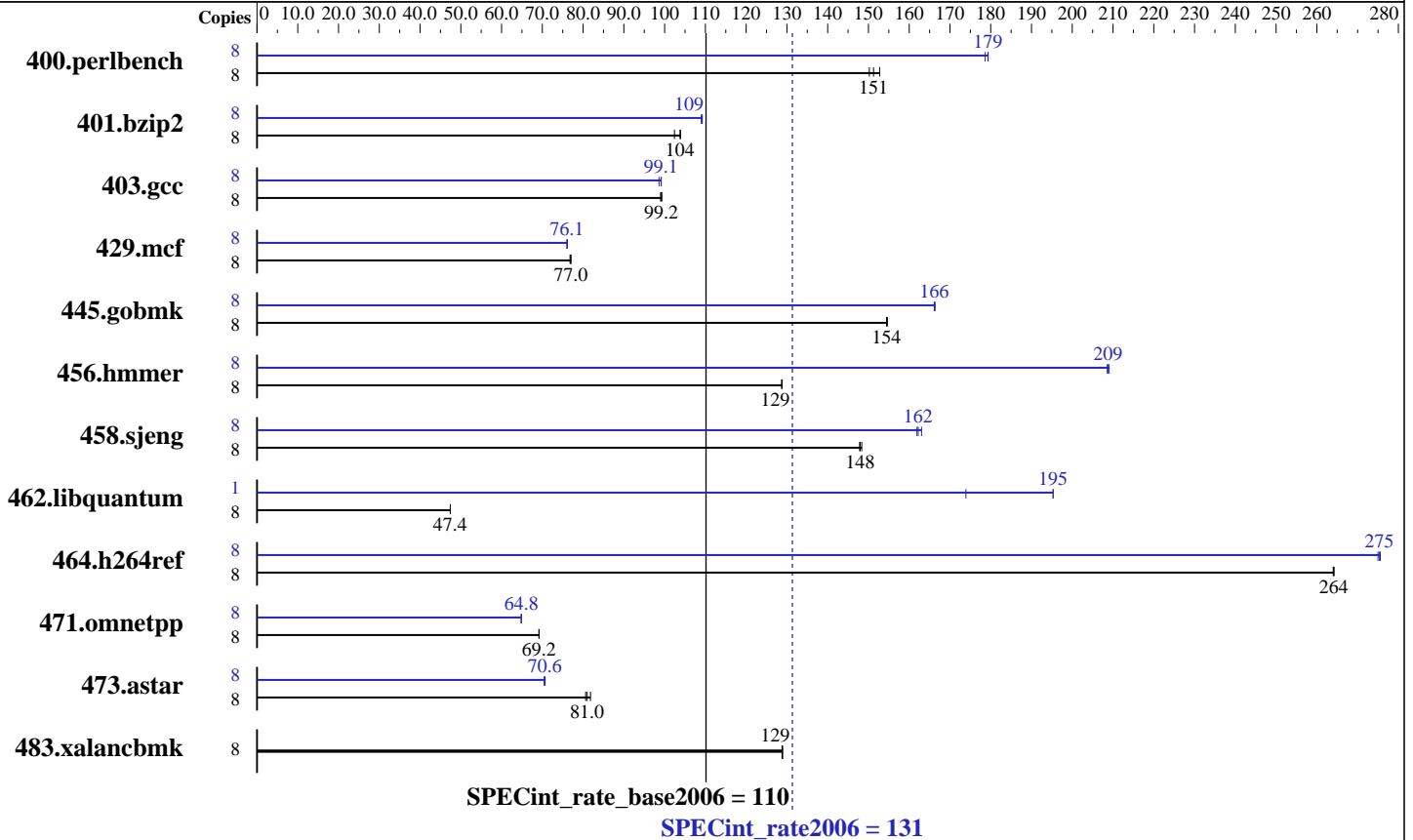
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics:  
 CPU MHz: 3167  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (4x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x SATA II, 400 GB, 7200 rpm  
 Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64) SP1, kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler for Linux32 and Linux64, Version 10.1, Build 20070913  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Multi-User Run Level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap Library, Version 8.1 (available from www.microquill.com) binutils-2.17.50.0.5-0.1.x86\_64



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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	8	512	153	<u>517</u>	<u>151</u>	520	150	8	436	179	438	179	<u>436</u>	<u>179</u>
401.bzip2	8	743	104	754	102	<u>744</u>	<u>104</u>	8	708	109	707	109	<u>707</u>	<u>109</u>
403.gcc	8	649	99.3	650	99.0	<u>649</u>	<u>99.2</u>	8	653	98.6	649	99.2	<u>650</u>	<u>99.1</u>
429.mcf	8	<u>948</u>	<u>77.0</u>	948	77.0	950	76.8	8	958	76.1	960	76.0	<u>959</u>	<u>76.1</u>
445.gobmk	8	543	154	543	155	<u>543</u>	<u>154</u>	8	505	166	504	166	<u>505</u>	<u>166</u>
456.hmmmer	8	579	129	580	129	<u>580</u>	<u>129</u>	8	358	209	357	209	<u>357</u>	<u>209</u>
458.sjeng	8	652	148	<u>654</u>	<u>148</u>	655	148	8	<u>597</u>	<u>162</u>	598	162	594	163
462.libquantum	8	3496	47.4	<u>3496</u>	<u>47.4</u>	3495	47.4	1	<u>106</u>	<u>195</u>	106	195	119	174
464.h264ref	8	<u>670</u>	<u>264</u>	670	264	671	264	8	<u>643</u>	<u>275</u>	642	276	644	275
471.omnetpp	8	<u>723</u>	<u>69.2</u>	722	69.2	723	69.2	8	<u>771</u>	<u>64.8</u>	771	64.9	771	64.8
473.astar	8	686	81.8	<u>693</u>	<u>81.0</u>	697	80.6	8	<u>795</u>	<u>70.6</u>	797	70.4	795	70.7
483.xalancbmk	8	<u>428</u>	<u>129</u>	428	129	429	129	8	<u>428</u>	<u>129</u>	428	129	429	129

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

## Platform Notes

BIOS configuration:  
Enhanced Speedstep Technology = Disable  
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable  
SnoopFilter = Enable

## General Notes

All binaries were built with 32-bit Intel compiler except:  
401.bzip2 and 456.hmmmer in peak were built with 64-bit Intel  
compiler by changing the path for include and library files.

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## Base Compiler Invocation

C benchmarks:  
icc

Continued on next page



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## Base Compiler Invocation (Continued)

C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:  
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/lib -lsmarheap

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:  
icpc



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## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
 401.bzip2: -DSPEC\_CPU\_LP64  
 456.hmmer: -DSPEC\_CPU\_LP64  
 462.libquantum: -DSPEC\_CPU\_LINUX  
 483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
 -prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo  
 -no-prec-div -ansi-alias

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
 -opt-streaming-stores always -vec-guard-write  
 -opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
 -no-prec-div -ansi-alias -opt-ra-region-strategy=block

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
 -no-prec-div -ansi-alias -opt-ra-region-strategy=routine

483.xalancbmk: basepeak = yes



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## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.39.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.39.xml>

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

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