



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

## SPECint®\_rate2006 = 128

### CELSIUS R650, Intel Xeon X5450 processor

## SPECint\_rate\_base2006 = 110

CPU2006 license: 22

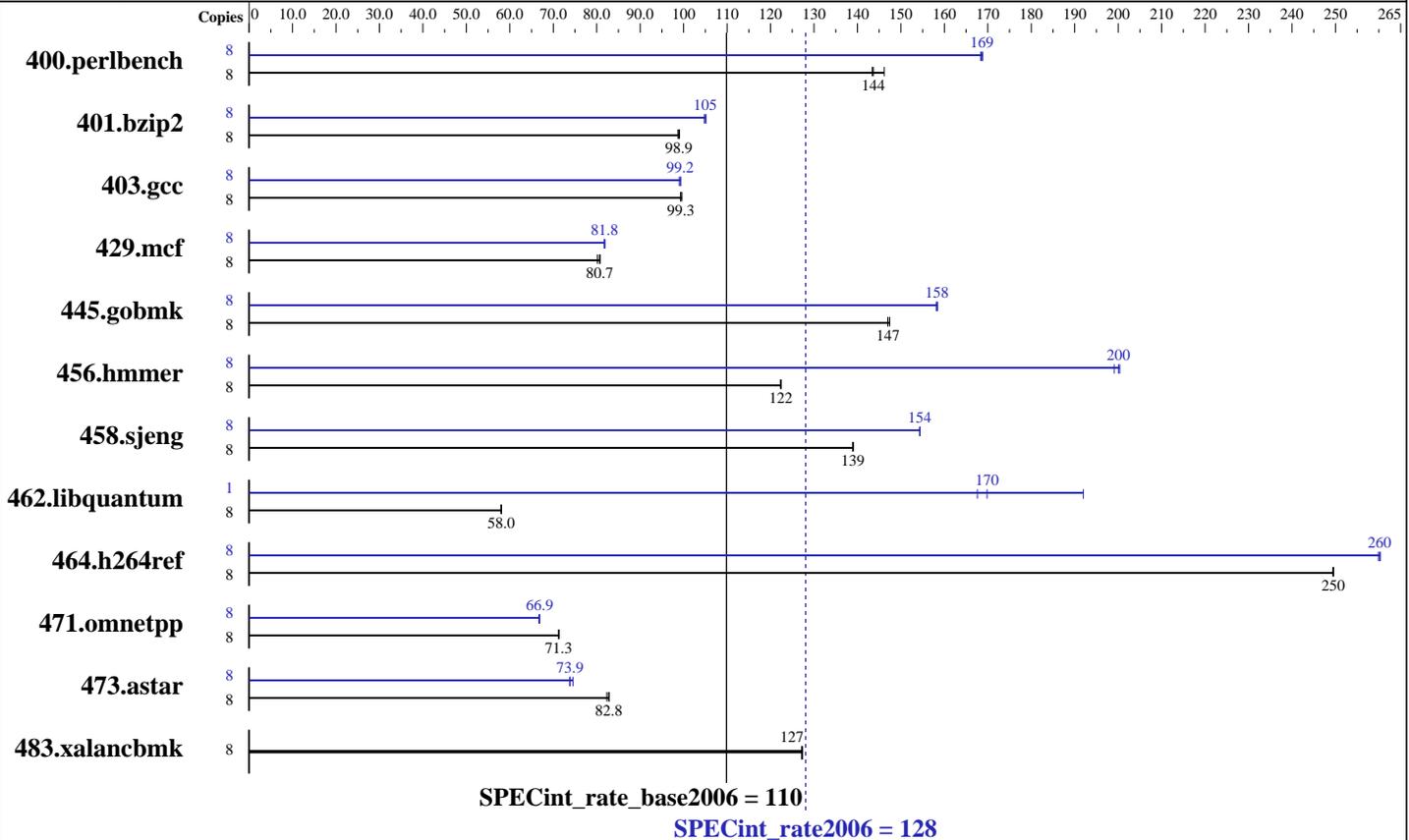
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Dec-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5450  
 CPU Characteristics:  
 CPU MHz: 3000  
 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 (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1 x 400 GB SATA II 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: MicroQuill SmartHeap Library, Version 8.1  
 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	535	146	545	143	<b>544</b>	<b>144</b>	8	<b>464</b>	<b>169</b>	463	169	464	168
401.bzip2	8	<b>781</b>	<b>98.9</b>	779	99.0	782	98.7	8	<b>735</b>	<b>105</b>	734	105	737	105
403.gcc	8	647	99.6	648	99.3	<b>648</b>	<b>99.3</b>	8	648	99.4	<b>649</b>	<b>99.2</b>	651	99.0
429.mcf	8	903	80.8	910	80.2	<b>905</b>	<b>80.7</b>	8	<b>892</b>	<b>81.8</b>	893	81.7	891	81.9
445.gobmk	8	571	147	<b>571</b>	<b>147</b>	569	147	8	530	158	<b>530</b>	<b>158</b>	531	158
456.hammer	8	610	122	610	122	<b>610</b>	<b>122</b>	8	375	199	372	200	<b>373</b>	<b>200</b>
458.sjeng	8	696	139	697	139	<b>697</b>	<b>139</b>	8	627	154	<b>627</b>	<b>154</b>	627	154
462.libquantum	8	<b>2856</b>	<b>58.0</b>	2859	58.0	2854	58.1	1	<b>122</b>	<b>170</b>	124	168	108	192
464.h264ref	8	709	250	<b>710</b>	<b>250</b>	710	249	8	680	260	681	260	<b>680</b>	<b>260</b>
471.omnetpp	8	702	71.2	702	71.3	<b>702</b>	<b>71.3</b>	8	<b>748</b>	<b>66.9</b>	748	66.9	750	66.7
473.astar	8	678	82.9	682	82.3	<b>679</b>	<b>82.8</b>	8	761	73.8	<b>760</b>	<b>73.9</b>	753	74.6
483.xalancbmk	8	434	127	433	127	<b>434</b>	<b>127</b>	8	434	127	433	127	<b>434</b>	<b>127</b>

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  
OMP\_NUM\_THREADS set to number of cores (default).

## 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.hammer in peak were built with 64-bit Intel  
compiler by changing the path for include and library files.

For information about Fujitsu Siemens Computers please see:  
<http://www.fujitsu-siemens.com>

## 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  
473.astar: -DSPEC\_CPU\_LITTLE\_ENDIAN  
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 -lsmartheap

## 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  
473.astar: -DSPEC\_CPU\_LITTLE\_ENDIAN  
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

Same as Base Other Flags

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.20080124.00.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.20080124.00.xml>

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

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