



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

**SPECint®2006 = 21.6**

### CELSIUS R550, Intel Xeon E5410 processor

**SPECint\_base2006 = 18.8**

CPU2006 license: 22

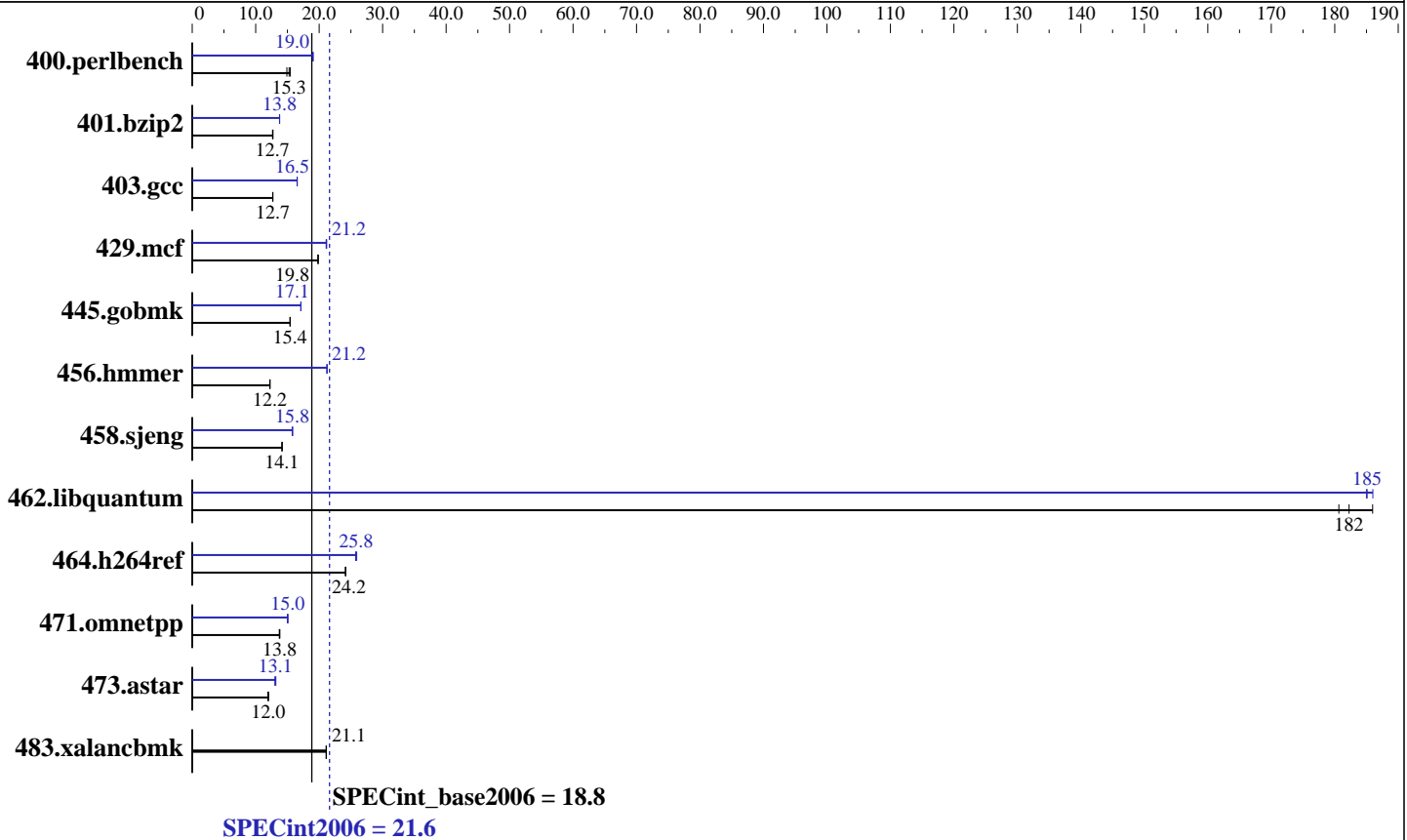
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5410  
 CPU Characteristics: 2333  
 CPU MHz: 2333  
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	655	14.9	<b>640</b>	<b>15.3</b>	632	15.5	<b>513</b>	<b>19.0</b>	513	19.0	514	19.0
401.bzip2	<b>761</b>	<b>12.7</b>	762	12.7	758	12.7	701	13.8	<b>701</b>	<b>13.8</b>	700	13.8
403.gcc	634	12.7	634	12.7	<b>634</b>	<b>12.7</b>	487	16.5	<b>487</b>	<b>16.5</b>	486	16.6
429.mcf	460	19.8	<b>460</b>	<b>19.8</b>	459	19.9	432	21.1	431	21.2	<b>431</b>	<b>21.2</b>
445.gobmk	680	15.4	680	15.4	<b>680</b>	<b>15.4</b>	<b>613</b>	<b>17.1</b>	613	17.1	612	17.1
456.hmmmer	<b>762</b>	<b>12.2</b>	762	12.2	762	12.3	440	21.2	439	21.2	<b>439</b>	<b>21.2</b>
458.sjeng	853	14.2	856	14.1	<b>855</b>	<b>14.1</b>	765	15.8	768	15.7	<b>766</b>	<b>15.8</b>
462.libquantum	111	186	115	181	<b>114</b>	<b>182</b>	<b>112</b>	<b>185</b>	112	185	111	186
464.h264ref	916	24.2	<b>916</b>	<b>24.2</b>	916	24.2	854	25.9	<b>857</b>	<b>25.8</b>	859	25.8
471.omnetpp	453	13.8	456	13.7	<b>454</b>	<b>13.8</b>	<b>415</b>	<b>15.0</b>	414	15.1	417	15.0
473.astar	<b>585</b>	<b>12.0</b>	585	12.0	589	11.9	533	13.2	<b>535</b>	<b>13.1</b>	539	13.0
483.xalancbmk	<b>327</b>	<b>21.1</b>	327	21.1	327	21.1	<b>327</b>	<b>21.1</b>	327	21.1	327	21.1

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 = Enable, Adjacent Sector Prefetch = Enable  
SnooFilter = Disable

## 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

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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 -vec-guard-write -parallel -par-runtime-control

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  
-auto-ilp32

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  
-auto-ilp32

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  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmartheap

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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