



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

**SPECint®2006 = 27.6**

### CELSIUS R550, Intel Xeon X5460 processor

**SPECint\_base2006 = 24.1**

CPU2006 license: 22

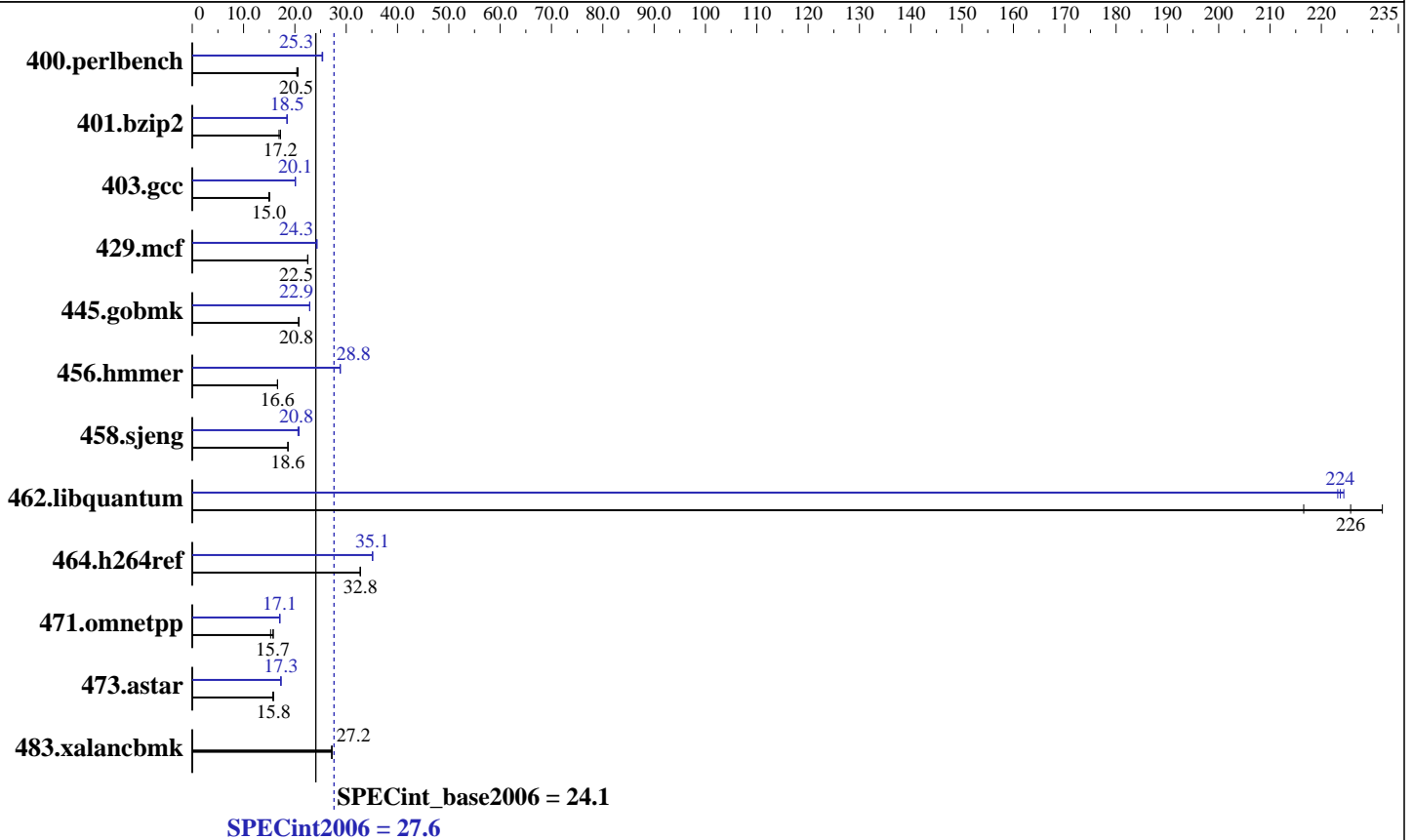
Test date: Nov-2007

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Nov-2007

Tested by: Fujitsu Siemens Computers

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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	479	20.4	474	20.6	<u>477</u>	<u>20.5</u>	384	25.4	<u>386</u>	<u>25.3</u>	386	25.3
401.bzip2	571	16.9	561	17.2	<u>562</u>	<u>17.2</u>	<u>522</u>	<u>18.5</u>	522	18.5	522	18.5
403.gcc	<u>538</u>	<u>15.0</u>	539	14.9	533	15.1	401	20.1	<u>401</u>	<u>20.1</u>	401	20.1
429.mcf	406	22.5	<u>405</u>	<u>22.5</u>	405	22.5	377	24.2	<u>375</u>	<u>24.3</u>	375	24.3
445.gobmk	<u>505</u>	<u>20.8</u>	505	20.8	505	20.8	458	22.9	458	22.9	<u>458</u>	<u>22.9</u>
456.hmmer	<u>561</u>	<u>16.6</u>	561	16.6	561	16.6	324	28.8	323	28.8	<u>323</u>	<u>28.8</u>
458.sjeng	<u>649</u>	<u>18.6</u>	650	18.6	647	18.7	581	20.8	<u>582</u>	<u>20.8</u>	587	20.6
462.libquantum	95.7	217	<u>91.8</u>	<u>226</u>	89.4	232	92.3	224	92.8	223	<u>92.6</u>	<u>224</u>
464.h264ref	676	32.8	<u>676</u>	<u>32.8</u>	676	32.7	630	35.1	630	35.1	<u>630</u>	<u>35.1</u>
471.omnetpp	409	15.3	395	15.8	<u>397</u>	<u>15.7</u>	<u>366</u>	<u>17.1</u>	366	17.1	367	17.0
473.astar	447	15.7	<u>444</u>	<u>15.8</u>	443	15.8	<u>406</u>	<u>17.3</u>	407	17.2	405	17.3
483.xalancbmk	<u>254</u>	<u>27.2</u>	253	27.2	254	27.2	<u>254</u>	<u>27.2</u>	253	27.2	254	27.2

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  
SnoopFilter = Disable

## General Notes

All binaries were built with 32-bit Intel compiler except:  
401.bzip2 and 456.hmmer 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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