



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu Siemens Computers

**SPECint<sup>®</sup>2006 = 27.3**

### CELSIUS R650, Intel Xeon X5460 processor

**SPECint\_base2006 = 23.9**

CPU2006 license: 22

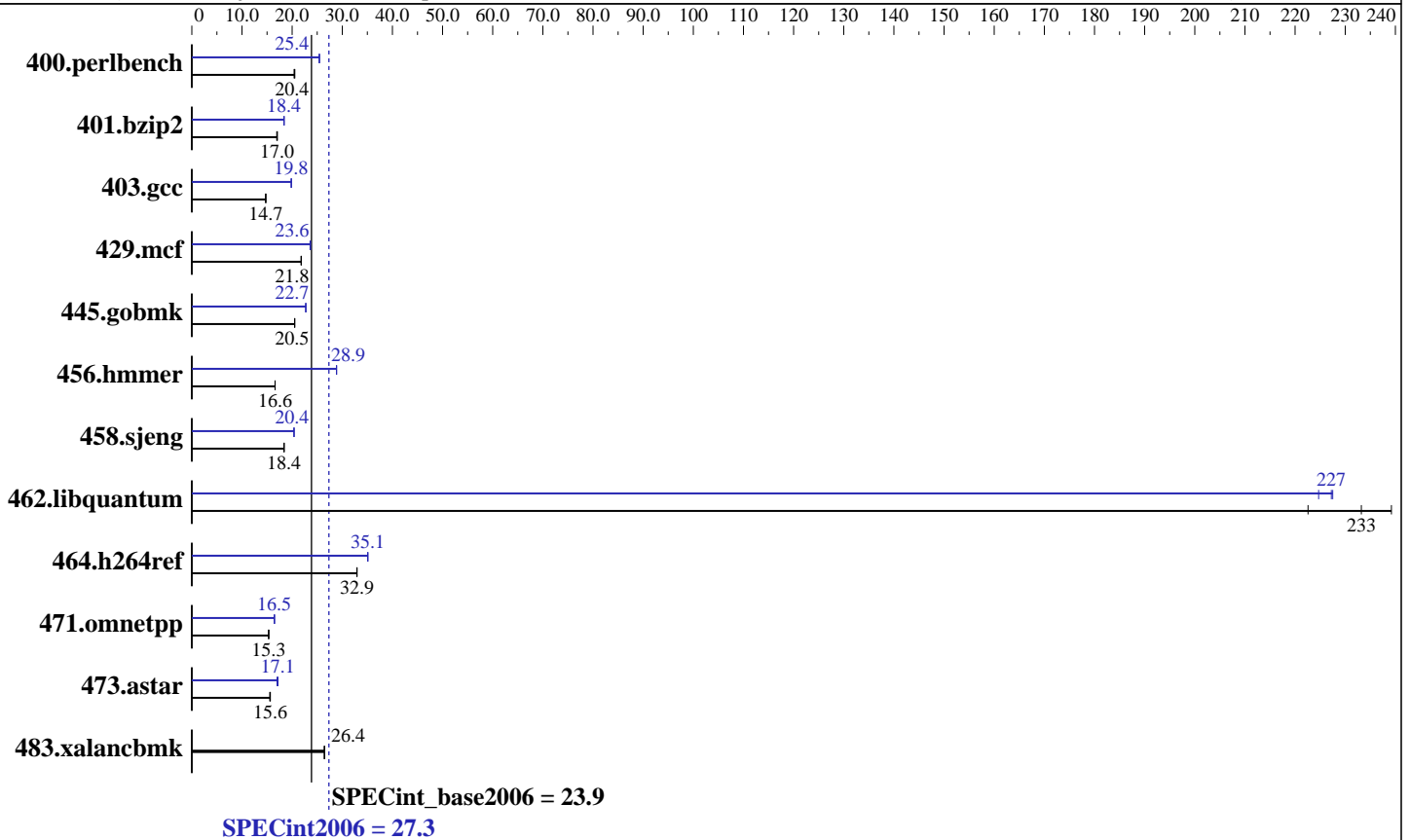
Test date: Nov-2007

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: 3166  
 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: SATA II 7200 rpm  
 Other Hardware: None

#### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64) kernel 2.6.16.21-0.8-smp  
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070824  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Multi-User, Run Level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Smart Heap Library, Version 8.1 (available from [www.microquill.com](http://www.microquill.com))  
 binutils-2.17.tar.gz, Version 2.17



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	478	20.4	<b>478</b>	<b>20.4</b>	476	20.5	385	25.4	<b>384</b>	<b>25.4</b>	384	25.5
401.bzip2	570	16.9	566	17.0	<b>567</b>	<b>17.0</b>	<b>525</b>	<b>18.4</b>	524	18.4	525	18.4
403.gcc	<b>546</b>	<b>14.7</b>	545	14.8	547	14.7	<b>406</b>	<b>19.8</b>	405	19.9	406	19.8
429.mcf	<b>418</b>	<b>21.8</b>	418	21.8	418	21.8	387	23.6	<b>386</b>	<b>23.6</b>	385	23.7
445.gobmk	512	20.5	511	20.5	<b>511</b>	<b>20.5</b>	462	22.7	<b>462</b>	<b>22.7</b>	461	22.7
456.hmmmer	562	16.6	562	16.6	<b>562</b>	<b>16.6</b>	<b>323</b>	<b>28.9</b>	323	28.9	323	28.9
458.sjeng	658	18.4	658	18.4	<b>658</b>	<b>18.4</b>	594	20.4	<b>594</b>	<b>20.4</b>	593	20.4
462.libquantum	93.1	223	<b>88.8</b>	<b>233</b>	86.6	239	92.2	225	91.1	228	<b>91.2</b>	<b>227</b>
464.h264ref	671	33.0	673	32.9	<b>672</b>	<b>32.9</b>	630	35.1	631	35.1	<b>631</b>	<b>35.1</b>
471.omnetpp	408	15.3	<b>408</b>	<b>15.3</b>	407	15.4	<b>380</b>	<b>16.5</b>	380	16.4	379	16.5
473.astar	448	15.7	<b>449</b>	<b>15.6</b>	452	15.5	409	17.2	<b>410</b>	<b>17.1</b>	413	17.0
483.xalancbmk	261	26.4	261	26.5	<b>261</b>	<b>26.4</b>	261	26.4	261	26.5	<b>261</b>	<b>26.4</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

## Platform Notes

BIOS configuration:

Enhanced Speedstep Technology = Disable

Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable

SnoopFilter = Disable

## General Notes

This result has been produced with binaries provided and compiled by Intel.

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

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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

## Base Other Flags

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

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

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## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## 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.20090713.02.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.20090713.02.xml>

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

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