



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

## SPECint®\_rate2006 = 136

### CELSIUS R650, Intel Xeon X5460 processor

## SPECint\_rate\_base2006 = 113

CPU2006 license: 22

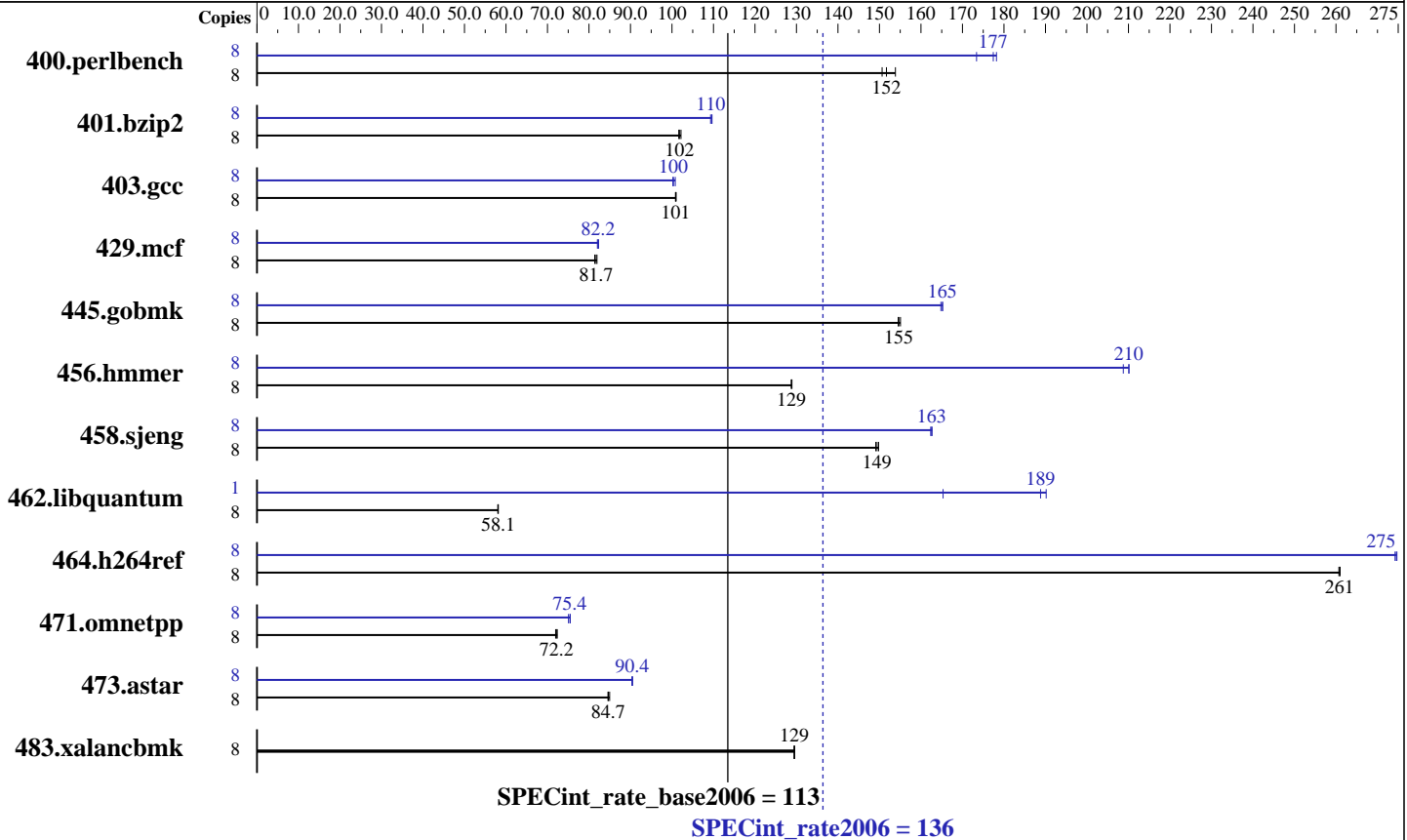
Test sponsor: Fujitsu Siemens Computers

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: 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 20070725  
 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) binutils-2.17.tar.gz, Version 2.17



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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      | 508        | 154         | <u>515</u>  | <u>152</u>  | 519        | 151         | 8      | 451        | 173        | <u>441</u> | <u>177</u>  | 439        | 178         |
| 401.bzip2      | 8      | 756        | 102         | 760         | 102         | <u>758</u> | <u>102</u>  | 8      | <u>705</u> | <u>110</u> | 706        | 109         | 704        | 110         |
| 403.gcc        | 8      | 638        | 101         | <b>638</b>  | <b>101</b>  | 639        | 101         | 8      | <b>642</b> | <b>100</b> | 643        | 100         | 639        | 101         |
| 429.mcf        | 8      | 891        | 81.9        | 896         | 81.4        | <b>893</b> | <b>81.7</b> | 8      | 886        | 82.3       | <b>888</b> | <b>82.2</b> | 889        | 82.0        |
| 445.gobmk      | 8      | <b>543</b> | <b>155</b>  | 541         | 155         | 543        | 155         | 8      | 509        | 165        | <b>508</b> | <b>165</b>  | 508        | 165         |
| 456.hmmmer     | 8      | 580        | 129         | <b>580</b>  | <b>129</b>  | 579        | 129         | 8      | <b>355</b> | <b>210</b> | 358        | 209         | 355        | 210         |
| 458.sjeng      | 8      | 649        | 149         | 646         | 150         | <b>648</b> | <b>149</b>  | 8      | 596        | 162        | <b>596</b> | <b>163</b>  | 595        | 163         |
| 462.libquantum | 8      | 2857       | 58.0        | <b>2852</b> | <b>58.1</b> | 2851       | 58.1        | 1      | <b>110</b> | <b>189</b> | 125        | 165         | 109        | 190         |
| 464.h264ref    | 8      | 679        | 261         | <b>679</b>  | <b>261</b>  | 678        | 261         | 8      | 646        | 274        | <b>645</b> | <b>275</b>  | 645        | 275         |
| 471.omnetpp    | 8      | 691        | 72.4        | 695         | 72.0        | <b>693</b> | <b>72.2</b> | 8      | 666        | 75.1       | 662        | 75.5        | <b>663</b> | <b>75.4</b> |
| 473.astar      | 8      | <b>663</b> | <b>84.7</b> | 664         | 84.6        | 661        | 85.0        | 8      | 620        | 90.5       | <b>621</b> | <b>90.4</b> | 621        | 90.4        |
| 483.xalancbmk  | 8      | <b>426</b> | <b>129</b>  | 426         | 130         | 426        | 129         | 8      | <b>426</b> | <b>129</b> | 426        | 130         | 426        | 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

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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<http://www.fujitsu-siemens.com/countries>



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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 -inline-calloc -opt-malloc-options=3

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/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/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

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  
 -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

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.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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