



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

**SPECint®2006 = 27.4**

PRIMERGY RX200 S4, Intel Xeon X5460, 3.16 GHz

**SPECint\_base2006 = 23.9**

CPU2006 license: 22

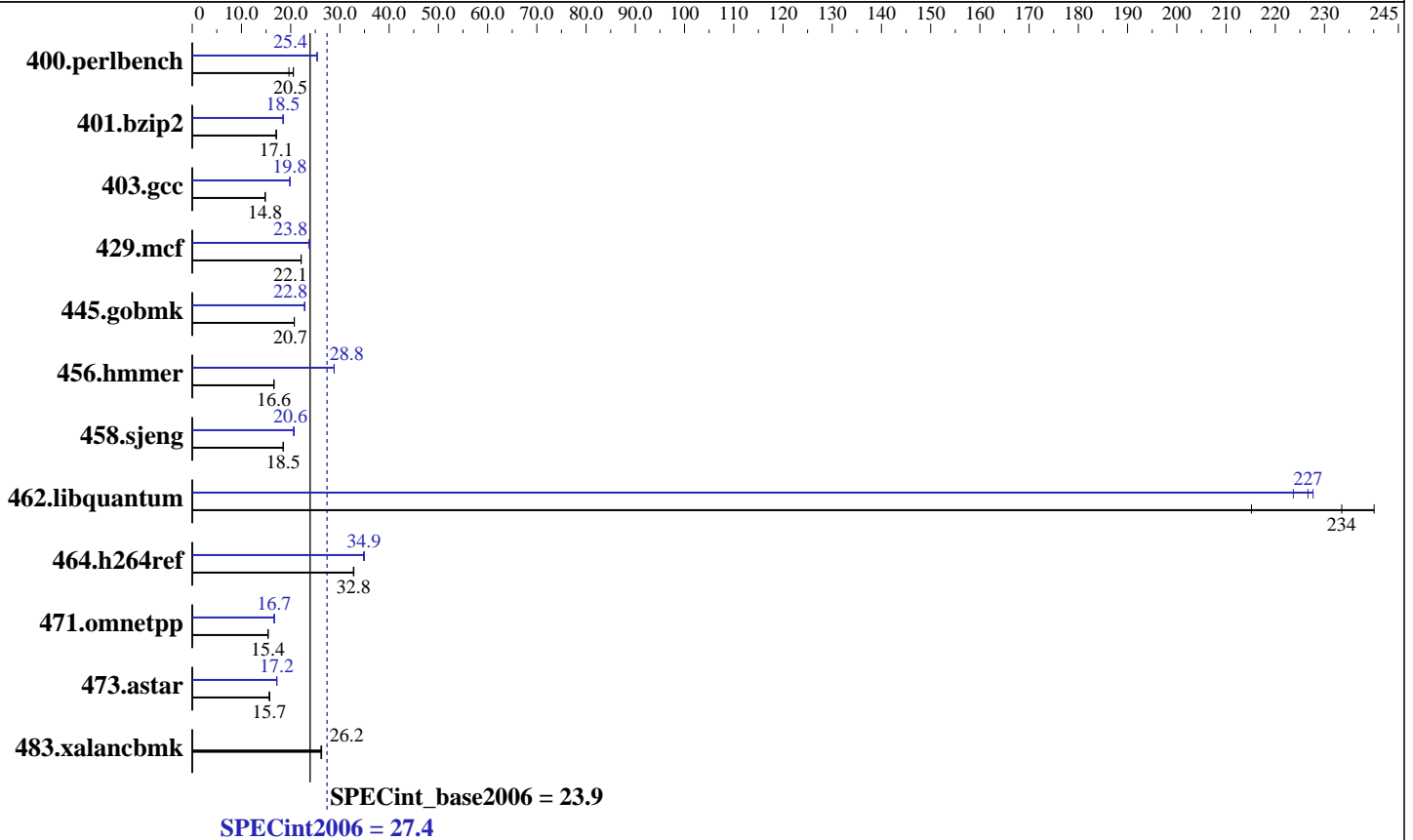
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jun-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics: 1333 MHz system bus  
 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: 16 GB (8x2 GB PC2-5300F, 2 rank, CL 5-5-5, ECC)  
 Disk Subsystem: 1x SAS, 73 GB, 15000 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: ext2  
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>476</b>	<b>20.5</b>	497	19.6	476	20.5	385	25.3	385	25.4	<b>385</b>	<b>25.4</b>
401.bzip2	564	17.1	<b>565</b>	<b>17.1</b>	566	17.0	523	18.4	<b>523</b>	<b>18.5</b>	521	18.5
403.gcc	<b>544</b>	<b>14.8</b>	543	14.8	544	14.8	<b>406</b>	<b>19.8</b>	405	19.9	406	19.8
429.mcf	<b>412</b>	<b>22.1</b>	412	22.1	413	22.1	384	23.8	383	23.8	<b>384</b>	<b>23.8</b>
445.gobmk	506	20.7	<b>506</b>	<b>20.7</b>	506	20.7	459	22.8	459	22.8	<b>459</b>	<b>22.8</b>
456.hmmmer	562	16.6	563	16.6	<b>563</b>	<b>16.6</b>	324	28.8	<b>324</b>	<b>28.8</b>	323	28.8
458.sjeng	<b>654</b>	<b>18.5</b>	653	18.5	656	18.4	584	20.7	588	20.6	<b>586</b>	<b>20.6</b>
462.libquantum	86.3	240	<b>88.7</b>	<b>234</b>	96.3	215	91.0	228	<b>91.4</b>	<b>227</b>	92.6	224
464.h264ref	<b>675</b>	<b>32.8</b>	674	32.8	676	32.8	636	34.8	<b>635</b>	<b>34.9</b>	633	35.0
471.omnetpp	405	15.4	406	15.4	<b>406</b>	<b>15.4</b>	<b>375</b>	<b>16.7</b>	375	16.7	376	16.6
473.astar	<b>448</b>	<b>15.7</b>	449	15.6	446	15.8	<b>409</b>	<b>17.2</b>	408	17.2	409	17.2
483.xalancbmk	<b>263</b>	<b>26.2</b>	262	26.3	264	26.2	<b>263</b>	<b>26.2</b>	262	26.3	264	26.2

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

## Platform Notes

BIOS configuration:  
Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable

## 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.

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

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## 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 -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

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX

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## Peak Portability Flags (Continued)

483.xalanbmk: -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.hmmr: -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.xalanbmk: 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.20090713.01.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.20090713.01.xml>

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

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