



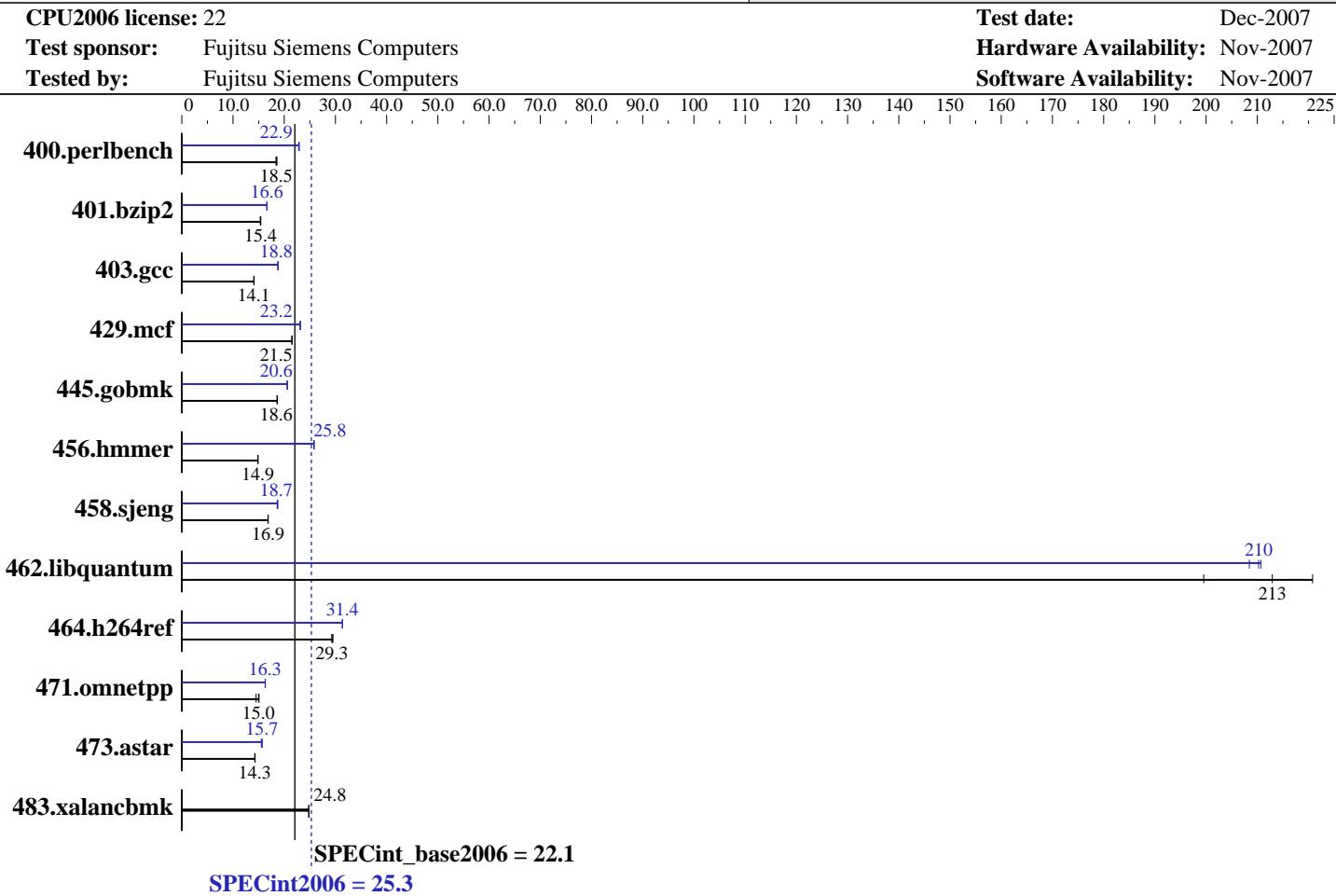
# SPEC® CINT2006 Result

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Fujitsu Siemens Computers

CELSIUS R550, Intel Xeon E5440 processor

**SPECint®2006 = 25.3**



## Hardware

CPU Name:	Intel Xeon E5440
CPU Characteristics:	
CPU MHz:	2833
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:	1 x 400 GB SATA II 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:	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>527</b>	<b>18.5</b>	527	18.5	531	18.4	<b>428</b>	22.8	<b>427</b>	<b>22.9</b>	426	22.9
401.bzip2	626	15.4	<b>627</b>	<b>15.4</b>	630	15.3	<b>580</b>	16.6	<b>581</b>	16.6	<b>580</b>	<b>16.6</b>
403.gcc	572	14.1	<b>572</b>	<b>14.1</b>	570	14.1	<b>429</b>	18.8	<b>428</b>	<b>18.8</b>	428	18.8
429.mcf	423	21.6	425	21.5	<b>424</b>	<b>21.5</b>	<b>394</b>	<b>23.2</b>	395	23.1	393	23.2
445.gobmk	563	18.6	<b>563</b>	<b>18.6</b>	563	18.6	510	20.6	<b>509</b>	<b>20.6</b>	509	20.6
456.hmmer	<b>628</b>	<b>14.9</b>	627	14.9	628	14.8	<b>361</b>	<b>25.8</b>	361	25.8	362	25.8
458.sjeng	719	16.8	<b>718</b>	<b>16.9</b>	717	16.9	650	18.6	<b>648</b>	<b>18.7</b>	645	18.7
462.libquantum	104	200	<b>97.3</b>	<b>213</b>	93.8	221	99.4	208	98.3	211	<b>98.5</b>	<b>210</b>
464.h264ref	755	29.3	<b>755</b>	<b>29.3</b>	750	29.5	<b>705</b>	31.4	706	31.4	<b>706</b>	<b>31.4</b>
471.omnetpp	431	14.5	<b>417</b>	<b>15.0</b>	414	15.1	383	16.3	<b>384</b>	<b>16.3</b>	384	16.3
473.astar	493	14.2	<b>492</b>	<b>14.3</b>	490	14.3	<b>447</b>	15.7	452	15.5	<b>448</b>	<b>15.7</b>
483.xalancbmk	<b>278</b>	<b>24.8</b>	278	24.8	278	24.8	<b>278</b>	<b>24.8</b>	278	24.8	278	24.8

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:

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.

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

## 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 -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.hmmr: /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 -unroll12 -ansi-alias -opt-multi-version-aggressive  
-auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll14 -O0 -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.20090714.03.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.20090714.03.xml>

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