



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

**SPECint®2006 = 20.0**

PRIMERGY TX300 S4, Intel Xeon E5405, 2.0 GHz

**SPECint\_base2006 = 17.5**

CPU2006 license: 22

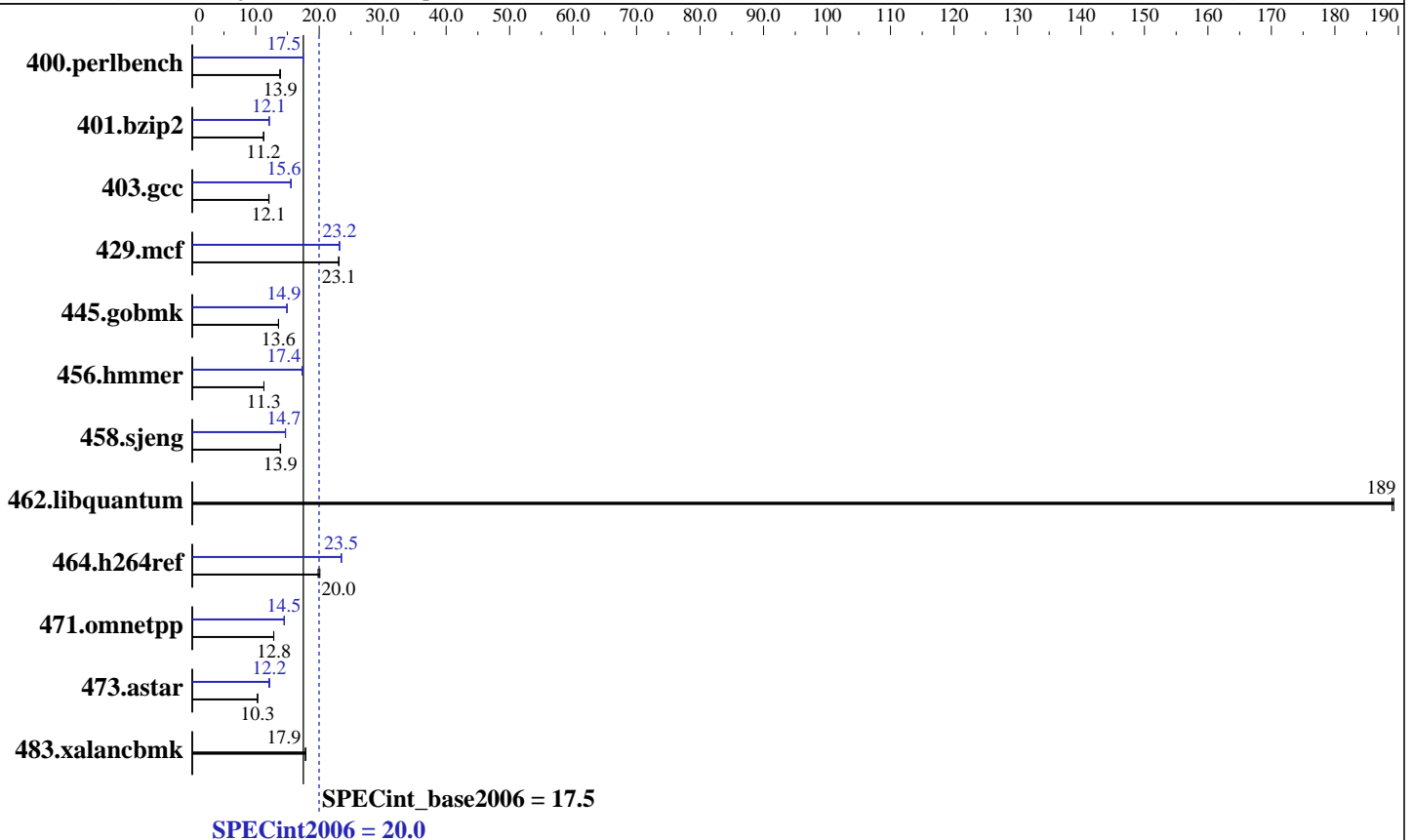
Test date: Oct-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Dec-2007

Tested by: Fujitsu Siemens Computers

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon E5405  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 2000  
 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, CL5-5-5, ECC)  
 Disk Subsystem: 1x SATA, 160 GB, 7200 rpm  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042  
 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 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	708	13.8	703	13.9	<b><u>704</u></b>	<b><u>13.9</u></b>	<b><u>560</u></b>	<b><u>17.5</u></b>	560	17.5	559	17.5
401.bzip2	858	11.2	858	11.2	<b><u>858</u></b>	<b><u>11.2</u></b>	796	12.1	<b><u>796</u></b>	<b><u>12.1</u></b>	796	12.1
403.gcc	665	12.1	<b><u>668</u></b>	<b><u>12.1</u></b>	668	12.1	517	15.6	518	15.5	<b><u>518</u></b>	<b><u>15.6</u></b>
429.mcf	396	23.0	<b><u>395</u></b>	<b><u>23.1</u></b>	394	23.1	394	23.2	<b><u>393</u></b>	<b><u>23.2</u></b>	393	23.2
445.gobmk	772	13.6	772	13.6	<b><u>772</u></b>	<b><u>13.6</u></b>	703	14.9	703	14.9	<b><u>703</u></b>	<b><u>14.9</u></b>
456.hammer	<b><u>826</u></b>	<b><u>11.3</u></b>	826	11.3	826	11.3	<b><u>537</u></b>	<b><u>17.4</u></b>	537	17.4	538	17.3
458.sjeng	<b><u>871</u></b>	<b><u>13.9</u></b>	869	13.9	873	13.9	<b><u>824</u></b>	<b><u>14.7</u></b>	824	14.7	823	14.7
462.libquantum	110	189	<b><u>110</u></b>	<b><u>189</u></b>	109	189	110	189	<b><u>110</u></b>	<b><u>189</u></b>	109	189
464.h264ref	1116	19.8	1100	20.1	<b><u>1108</u></b>	<b><u>20.0</u></b>	941	23.5	943	23.5	<b><u>943</u></b>	<b><u>23.5</u></b>
471.omnetpp	487	12.8	487	12.8	<b><u>487</u></b>	<b><u>12.8</u></b>	<b><u>431</u></b>	<b><u>14.5</u></b>	431	14.5	431	14.5
473.astar	<b><u>682</u></b>	<b><u>10.3</u></b>	682	10.3	683	10.3	<b><u>577</u></b>	<b><u>12.2</u></b>	582	12.1	576	12.2
483.xalancbmk	386	17.9	<b><u>386</u></b>	<b><u>17.9</u></b>	387	17.8	<b><u>386</u></b>	<b><u>17.9</u></b>	<b><u>386</u></b>	<b><u>17.9</u></b>	387	17.8

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  
KMP\_AFFINITY set to "physical,0"

## Platform Notes

BIOS configuration:  
Memory Throttling = Enable

## General Notes

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:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/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/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

C++ benchmarks:

icpc

## Peak Portability Flags

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

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## Peak Portability Flags (Continued)

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) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -auto-ilp32 -opt-prefetch  
-ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/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-ic11.0-int-linux64-revA.20090713.12.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.12.xml>

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

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