



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

### SPECint®\_rate2006 = 65.2

PRIMERGY RX200 S4, Intel Xeon E5420, 2.50 GHz

### SPECint\_rate\_base2006 = 54.9

CPU2006 license: 22

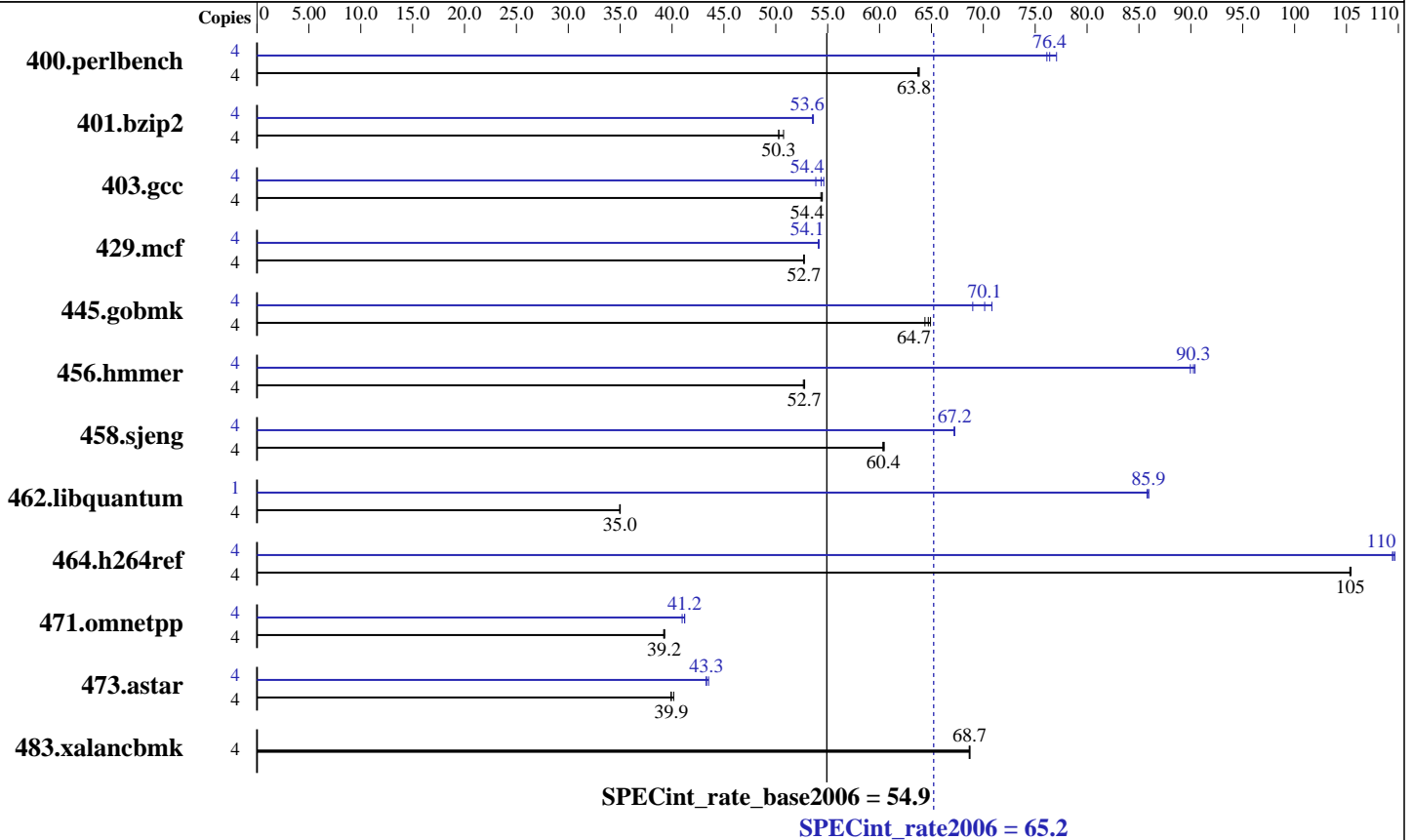
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jul-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5420  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 2500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 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							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	612	63.8	614	63.7	<b>613</b>	<b>63.8</b>	4	513	76.1	507	77.1	<b>512</b>	<b>76.4</b>
401.bzip2	4	768	50.3	761	50.7	<b>768</b>	<b>50.3</b>	4	720	53.6	<b>720</b>	<b>53.6</b>	721	53.5
403.gcc	4	591	54.5	<b>591</b>	<b>54.4</b>	593	54.3	4	<b>592</b>	<b>54.4</b>	598	53.9	590	54.6
429.mcf	4	<b>692</b>	<b>52.7</b>	692	52.7	692	52.7	4	673	54.2	<b>674</b>	<b>54.1</b>	674	54.1
445.gobmk	4	646	64.9	<b>649</b>	<b>64.7</b>	652	64.4	4	608	69.0	592	70.8	<b>598</b>	<b>70.1</b>
456.hammer	4	<b>708</b>	<b>52.7</b>	707	52.8	709	52.7	4	415	90.0	413	90.4	<b>413</b>	<b>90.3</b>
458.sjeng	4	<b>802</b>	<b>60.4</b>	802	60.3	801	60.5	4	720	67.2	<b>720</b>	<b>67.2</b>	720	67.2
462.libquantum	4	2367	35.0	2371	35.0	<b>2370</b>	<b>35.0</b>	1	<b>241</b>	<b>85.9</b>	241	85.9	242	85.8
464.h264ref	4	<b>840</b>	<b>105</b>	840	105	840	105	4	809	109	807	110	<b>808</b>	<b>110</b>
471.omnetpp	4	<b>637</b>	<b>39.2</b>	638	39.2	636	39.3	4	<b>607</b>	<b>41.2</b>	606	41.2	610	41.0
473.astar	4	699	40.2	<b>703</b>	<b>39.9</b>	704	39.9	4	645	43.5	<b>648</b>	<b>43.3</b>	649	43.3
483.xalancbmk	4	<b>402</b>	<b>68.7</b>	402	68.6	402	68.7	4	<b>402</b>	<b>68.7</b>	402	68.6	402	68.7

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 = Disable

## General Notes

All binaries were built with 32-bit Intel compiler except:  
401.bzip2 and 456.hammer 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 -inline-calloc -opt-malloc-options=3

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.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/opt/SmartHeap\_8.1/lib -lsmarheap

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 -lsmarheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

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## Peak Other Flags (Continued)

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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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