



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu Siemens Computers

PRIMERGY RX300 S4, Intel Xeon processor E5405,  
2.0 GHz

SPECint<sup>®</sup>\_rate2006 = 103

SPECint\_rate\_base2006 = 84.8

CPU2006 license: 22

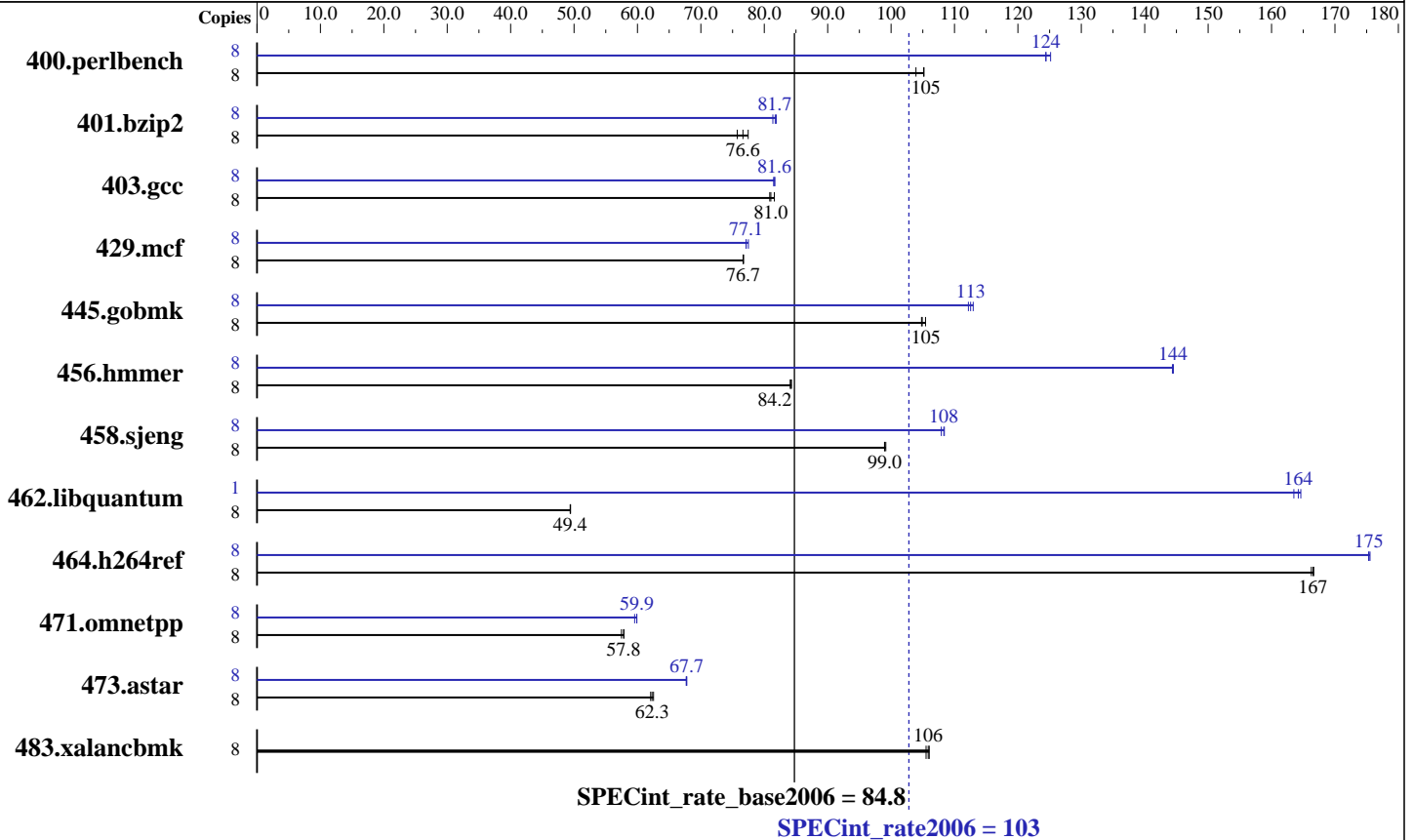
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Oct-2007

Hardware Availability: Dec-2007

Software Availability: Nov-2007



### 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, CAS 5-5-5, with ECC)  
 Disk Subsystem: Seagate ST973451SS (SAS, 73GB, 15000rpm)  
 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 20070725  
 Auto Parallel: Yes  
 File System: ext2  
 System State: Multiuser, Runlevel 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Smart Heap Library, Version 8.1  
 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	<b>743</b>	<b>105</b>	752	104	743	105	8	624	125	628	124	<b>628</b>	<b>124</b>
401.bzip2	8	997	77.5	1019	75.7	<b>1007</b>	<b>76.6</b>	8	943	81.9	949	81.4	<b>945</b>	<b>81.7</b>
403.gcc	8	789	81.6	796	80.9	<b>795</b>	<b>81.0</b>	8	789	81.7	790	81.5	<b>789</b>	<b>81.6</b>
429.mcf	8	<b>951</b>	<b>76.7</b>	951	76.7	951	76.7	8	946	77.1	941	77.5	<b>946</b>	<b>77.1</b>
445.gobmk	8	796	105	<b>800</b>	<b>105</b>	801	105	8	743	113	748	112	<b>746</b>	<b>113</b>
456.hmmmer	8	<b>887</b>	<b>84.2</b>	888	84.1	885	84.3	8	517	144	516	145	<b>517</b>	<b>144</b>
458.sjeng	8	976	99.2	<b>978</b>	<b>99.0</b>	978	99.0	8	<b>894</b>	<b>108</b>	897	108	893	108
462.libquantum	8	3356	49.4	3352	49.5	<b>3355</b>	<b>49.4</b>	1	<b>126</b>	<b>164</b>	127	164	126	165
464.h264ref	8	<b>1063</b>	<b>167</b>	1062	167	1065	166	8	<b>1009</b>	<b>175</b>	1009	176	1010	175
471.omnetpp	8	864	57.9	870	57.5	<b>865</b>	<b>57.8</b>	8	835	59.9	<b>835</b>	<b>59.9</b>	840	59.6
473.astar	8	898	62.5	905	62.1	<b>901</b>	<b>62.3</b>	8	830	67.7	<b>829</b>	<b>67.7</b>	829	67.8
483.xalancbmk	8	521	106	523	106	<b>521</b>	<b>106</b>	8	521	106	523	106	<b>521</b>	<b>106</b>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## 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.

BIOS configuration:  
Adjacent Sector Prefetch = Disable

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/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

## 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

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.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.20090713.02.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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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