



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

### SPECint®\_rate2006 = 150

PRIMERGY RX300 S4, Intel Xeon X5470, 3.33 GHz

### SPECint\_rate\_base2006 = 136

CPU2006 license: 22

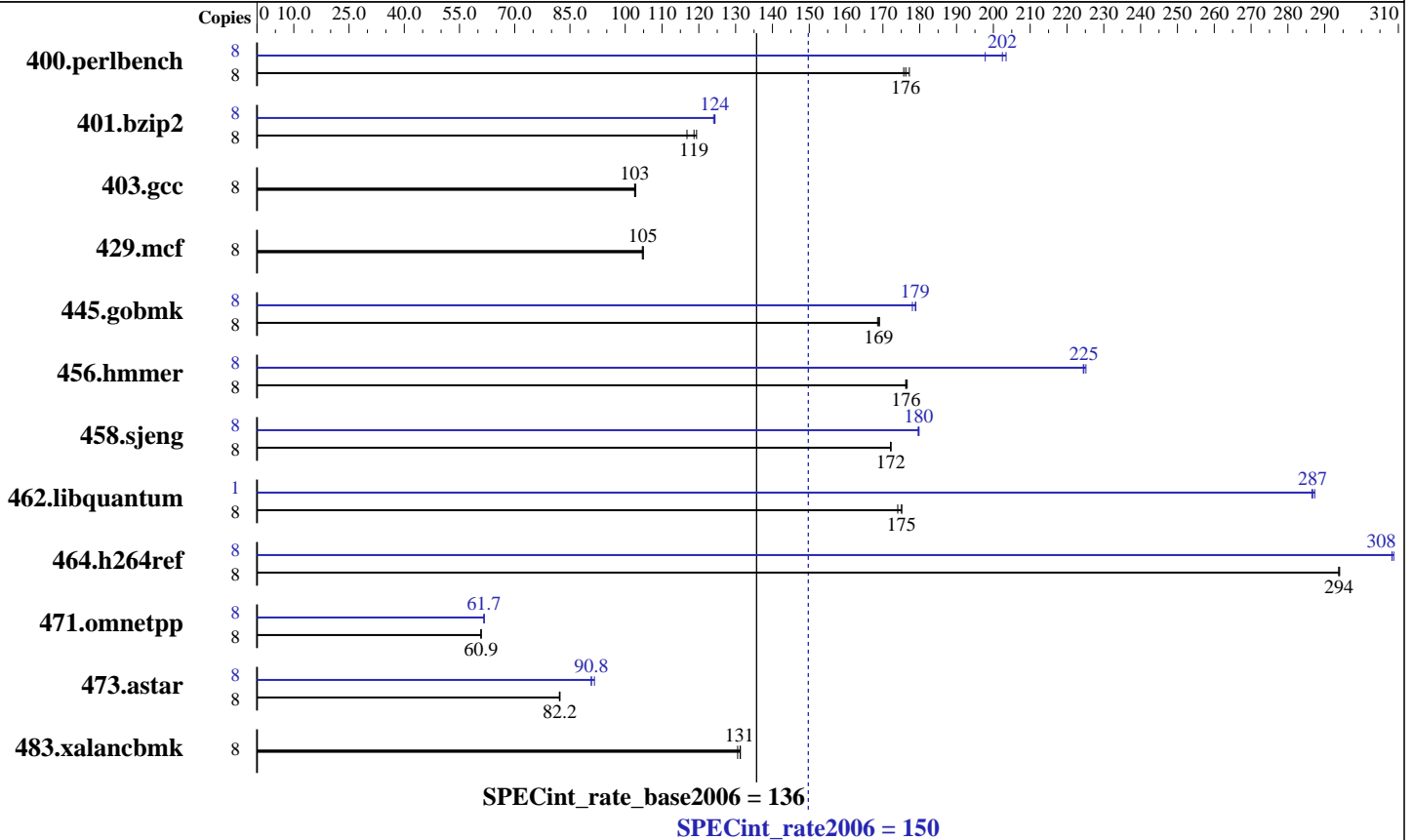
Test date: Aug-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Oct-2008

Tested by: Fujitsu Siemens Computers

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X5470  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3333  
 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 SAS, 73 GB, 15000 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	<b>444</b>	<b>176</b>	445	176	441	177	8	395	198	<b>386</b>	<b>202</b>	384	203
401.bzip2	8	647	119	<b>650</b>	<b>119</b>	661	117	8	622	124	621	124	<b>621</b>	<b>124</b>
403.gcc	8	<b>628</b>	<b>103</b>	626	103	628	103	8	<b>628</b>	<b>103</b>	626	103	628	103
429.mcf	8	<b>696</b>	<b>105</b>	695	105	697	105	8	<b>696</b>	<b>105</b>	695	105	697	105
445.gobmk	8	498	169	<b>497</b>	<b>169</b>	496	169	8	469	179	471	178	<b>469</b>	<b>179</b>
456.hmmer	8	423	177	424	176	<b>423</b>	<b>176</b>	8	<b>332</b>	<b>225</b>	332	225	333	224
458.sjeng	8	562	172	563	172	<b>562</b>	<b>172</b>	8	<b>538</b>	<b>180</b>	539	180	538	180
462.libquantum	8	<b>947</b>	<b>175</b>	952	174	947	175	1	<b>72.3</b>	<b>287</b>	72.3	287	72.1	287
464.h264ref	8	<b>602</b>	<b>294</b>	602	294	603	294	8	573	309	574	308	<b>574</b>	<b>308</b>
471.omnetpp	8	821	60.9	<b>822</b>	<b>60.9</b>	822	60.8	8	810	61.7	811	61.6	<b>811</b>	<b>61.7</b>
473.astar	8	682	82.3	684	82.1	<b>683</b>	<b>82.2</b>	8	618	90.8	<b>618</b>	<b>90.8</b>	613	91.6
483.xalancbmk	8	420	131	423	131	<b>421</b>	<b>131</b>	8	420	131	423	131	<b>421</b>	<b>131</b>

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

## Compiler Invocation Notes

All binaries were built with 32-bit mode except:  
401.bzip2 and 456.hmmer in peak were built with 64-bit mode.

## Submit Notes

The config file option 'submit' was used.

## 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)  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 64M

## Platform Notes

BIOS configuration:  
Adjacent Sector Prefetch = Disable  
Memory Throttling = Enable

## General Notes

taskset has been used to bind processes to cores except  
for 462.libquantum peak

For information about Fujitsu Siemens Computers please see:  
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## General Notes (Continued)

<http://www.fujitsu-siemens.com>

## Base Compiler Invocation

C benchmarks:

icc

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:

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

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## Peak Compiler Invocation (Continued)

```
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
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 -opt-prefetch -ansi-alias

403.gcc: basepeak = yes

429.mcf: basepeak = yes

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

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

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static
               -opt-malloc-options=3 -parallel -par-runtime-control
               -opt-prefetch

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

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## Peak Optimization Flags (Continued)

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 -lsmarheap

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 -lsmarheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

Same as Base Other Flags

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20080916.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20080916.xml>

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

Tested with SPEC CPU2006 v1.1.

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