



# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

SPECint®\_rate2006 = 277

PRIMERGY RX600 S4, Intel Xeon X7460, 2.66 GHz

SPECint\_rate\_base2006 = 226

CPU2006 license: 22

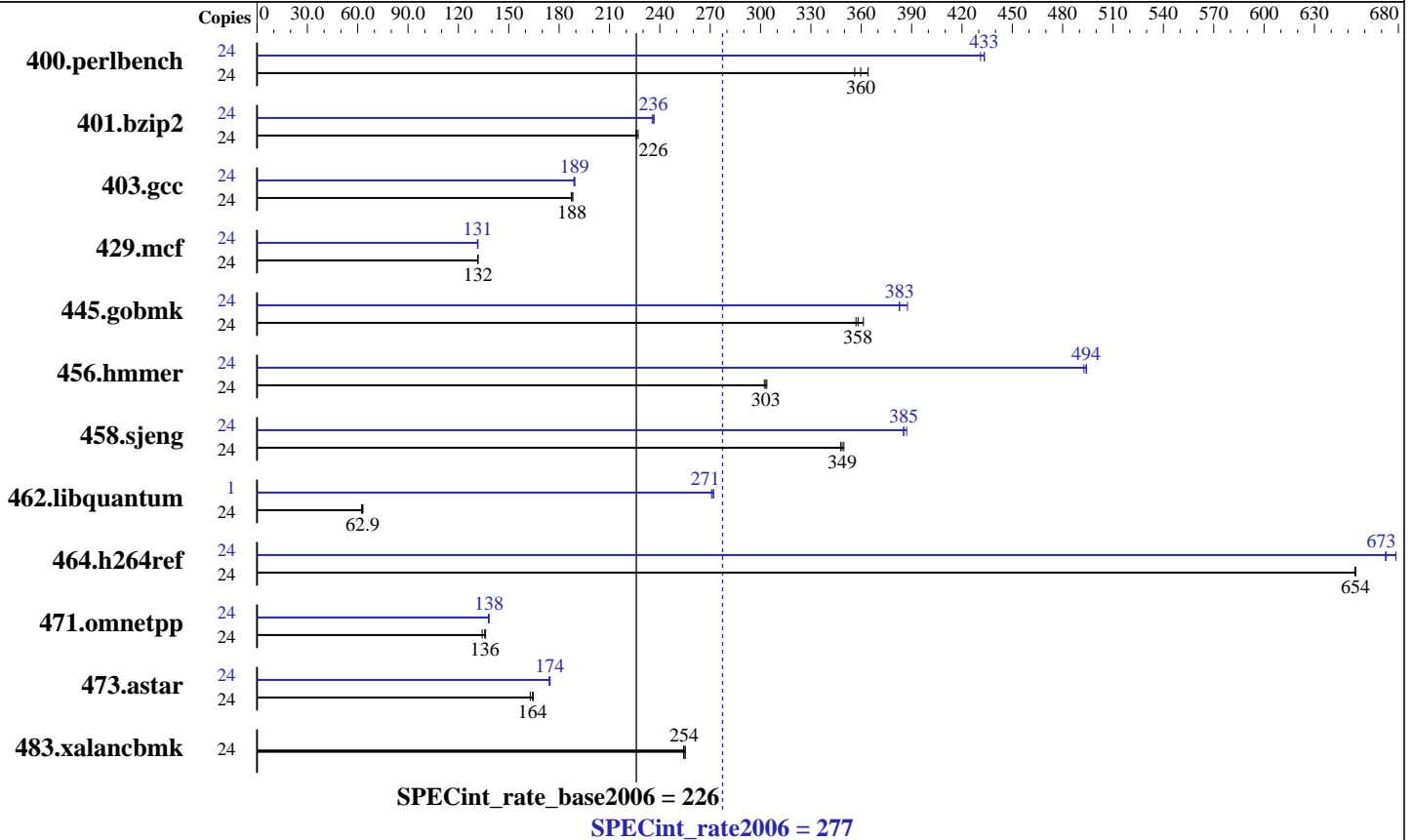
Test date: Aug-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Oct-2008

Tested by: Fujitsu Siemens Computers

Software Availability: May-2008



### Hardware

CPU Name: Intel Xeon X7460  
 CPU Characteristics: 1066 MHz system bus  
 CPU MHz: 2667  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip  
 CPU(s) orderable: 1,2,4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 9 MB I+D on chip per chip, 3 MB shared / 2 cores  
 L3 Cache: 16 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 64 GB (16x4 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) with SP2, kernel 2.6.16.60-0.21-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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	644	364	<b><u>652</u></b>	<b><u>360</u></b>	658	356	24	<b><u>541</u></b>	<b><u>433</u></b>	541	433	544	431
401.bzip2	24	1026	226	<b><u>1024</u></b>	<b><u>226</u></b>	1020	227	24	984	235	<b><u>981</u></b>	<b><u>236</u></b>	979	237
403.gcc	24	1032	187	1027	188	<b><u>1029</u></b>	<b><u>188</u></b>	24	<b><u>1021</u></b>	<b><u>189</u></b>	1020	189	1023	189
429.mcf	24	1664	132	1662	132	<b><u>1663</u></b>	<b><u>132</u></b>	24	1666	131	<b><u>1666</u></b>	<b><u>131</u></b>	1662	132
445.gobmk	24	697	361	<b><u>703</u></b>	<b><u>358</u></b>	705	357	24	650	388	<b><u>658</u></b>	<b><u>383</u></b>	658	383
456.hmmer	24	741	302	<b><u>739</u></b>	<b><u>303</u></b>	737	304	24	<b><u>453</u></b>	<b><u>494</u></b>	453	494	455	493
458.sjeng	24	<b><u>833</u></b>	<b><u>349</u></b>	835	348	830	350	24	754	385	750	387	<b><u>754</u></b>	<b><u>385</u></b>
462.libquantum	24	7983	62.3	<b><u>7905</u></b>	<b><u>62.9</u></b>	7884	63.1	1	76.5	271	76.1	272	<b><u>76.4</u></b>	<b><u>271</u></b>
464.h264ref	24	811	655	812	654	<b><u>812</u></b>	<b><u>654</u></b>	24	783	679	790	672	<b><u>789</u></b>	<b><u>673</u></b>
471.omnetpp	24	1118	134	<b><u>1106</u></b>	<b><u>136</u></b>	1101	136	24	1088	138	1085	138	<b><u>1085</u></b>	<b><u>138</u></b>
473.astar	24	1035	163	<b><u>1026</u></b>	<b><u>164</u></b>	1023	165	24	968	174	965	175	<b><u>966</u></b>	<b><u>174</u></b>
483.xalancbmk	24	652	254	<b><u>651</u></b>	<b><u>254</u></b>	649	255	24	652	254	<b><u>651</u></b>	<b><u>254</u></b>	649	255

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 Intel compiler except:  
401.bzip2 and 456.hmmer in peak were built with 64-bit Intel compiler.

## 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)

## Platform Notes

BIOS configuration:  
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

## General Notes

taskset has been used to bind processes to CPUs

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



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## Base Compiler Invocation

C benchmarks:

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

C++ benchmarks:

```
/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

## 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 -lsmarheap
```

## Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

```
401.bzip2: icc
```

```
456.hmmer: icc
```

C++ benchmarks:

```
/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```



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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

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



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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/flags-ic101-linux-intel64.html>

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

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.xml>

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

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