



# SPEC® CINT2006 Result

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Fujitsu

**SPECint®\_rate2006 = 183**

PRIMERGY BX920 S2, Intel Xeon X5670, 2.93 GHz

**SPECint\_rate\_base2006 = 172**

CPU2006 license: 19

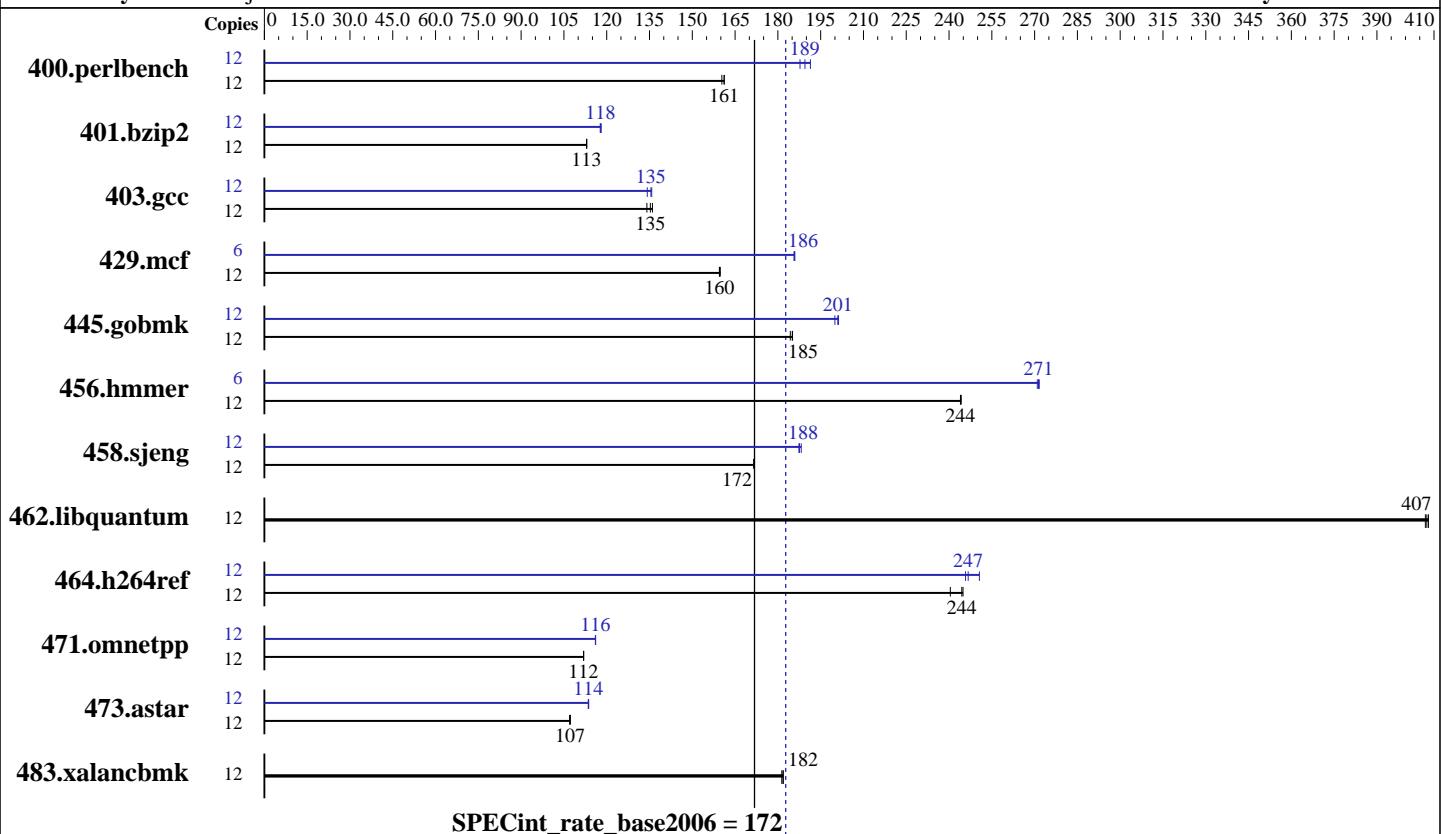
**Test date:** Aug-2010

**Test sponsor:** Fujitsu

**Hardware Availability:** Aug-2010

**Tested by:** Fujitsu

**Software Availability:** Jan-2010



## Hardware

CPU Name: Intel Xeon X5670  
CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz  
CPU MHz: 2933  
FPU: Integrated  
CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core  
CPU(s) orderable: 1,2 chips  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 256 KB I+D on chip per core  
L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 24 GB (3x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC)  
Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM  
Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-default  
Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l\_cproc\_p\_11.1.064  
Auto Parallel: No  
File System: ext3  
System State: Run level 3 (multi-user)  
Base Pointers: 32-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V8.1



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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	12	<b>727</b>	<b>161</b>	727	161	731	160	12	624	188	<b>619</b>	<b>189</b>	613	191
401.bzip2	12	1025	113	<b>1025</b>	<b>113</b>	1025	113	12	981	118	<b>983</b>	<b>118</b>	984	118
403.gcc	12	710	136	720	134	<b>714</b>	<b>135</b>	12	720	134	<b>713</b>	<b>135</b>	711	136
429.mcf	12	<b>686</b>	<b>160</b>	686	159	685	160	6	294	186	295	186	<b>294</b>	<b>186</b>
445.gobmk	12	683	184	680	185	<b>680</b>	<b>185</b>	12	<b>626</b>	<b>201</b>	625	201	629	200
456.hammer	12	459	244	<b>459</b>	<b>244</b>	458	244	6	207	271	206	272	<b>206</b>	<b>271</b>
458.sjeng	12	<b>846</b>	<b>172</b>	846	172	846	172	12	775	187	772	188	<b>774</b>	<b>188</b>
462.libquantum	12	611	407	<b>610</b>	<b>407</b>	609	408	12	611	407	<b>610</b>	<b>407</b>	609	408
464.h264ref	12	1084	245	1104	240	<b>1086</b>	<b>244</b>	12	<b>1076</b>	<b>247</b>	1080	246	1060	251
471.omnetpp	12	670	112	<b>670</b>	<b>112</b>	670	112	12	<b>646</b>	<b>116</b>	646	116	646	116
473.astar	12	<b>786</b>	<b>107</b>	787	107	786	107	12	<b>742</b>	<b>114</b>	741	114	<b>742</b>	<b>114</b>
483.xalancbmk	12	457	181	455	182	<b>455</b>	<b>182</b>	12	457	181	455	182	<b>455</b>	<b>182</b>

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable  
Performance/Power Setting = Traditional

## General Notes

For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

## Base Compiler Invocation

C benchmarks:  
icc -m32

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## Base Compiler Invocation (Continued)

C++ benchmarks:

`icpc -m32`

## Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

462.libquantum: `-DSPEC_CPU_LINUX`

483.xalancbmk: `-DSPEC_CPU_LINUX`

## Base Optimization Flags

C benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap`

## Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m32`

401.bzip2: `icc -m64`

456.hmmr: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks (except as noted below):

`icpc -m32`

473.astar: `icpc -m64`



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## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
473.astar: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -ansi-alias  
  
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32  
  
403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static  
  
429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
  
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias  
  
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll12  
-ansi-alias -auto-ilp32  
  
458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll14 -auto-ilp32  
  
462.libquantum: basepeak = yes  
  
464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll12 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

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## Peak Optimization Flags (Continued)

```
473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
           -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
           -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs
           -L/home/cmpllr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64
```

```
483.xalancbmk: basepeak = yes
```

## 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-ic11.1-linux64-revE.20100708.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.xml>

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

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