



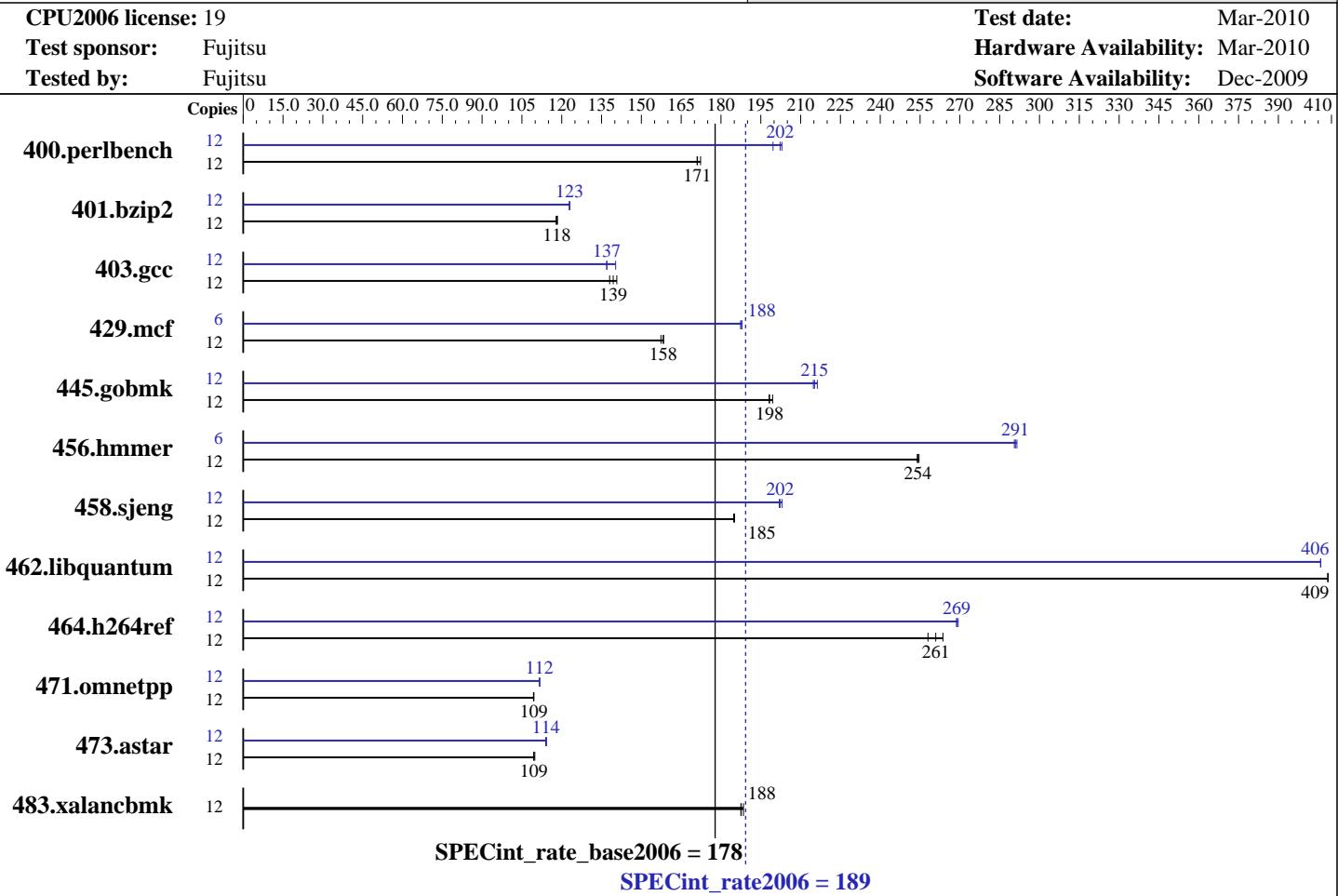
# SPEC® CINT2006 Result

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Fujitsu

CELSIUS M470, Intel Xeon W3680

**SPECint®\_rate2006 = 189**



## Hardware

CPU Name: Intel Xeon W3680  
CPU Characteristics: Intel Turbo Boost Technology up to 3.6 GHz  
CPU MHz: 3333  
FPU: Integrated  
CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core  
CPU(s) orderable: 1 chip  
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: 12 GB (6x2 GB PC3-10600E, 2 rank, CL9, ECC)  
Disk Subsystem: 1 x SATA II, 400 GB, 7200 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: Multi-User Run Level 3  
Base Pointers: 32-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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Software Availability: Dec-2009

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	<b>685</b>	<b>171</b>	686	171	680	172	12	578	203	<b>580</b>	<b>202</b>	587	200
401.bzip2	12	<b>980</b>	<b>118</b>	978	118	982	118	12	<b>942</b>	<b>123</b>	942	123	941	123
403.gcc	12	<b>693</b>	<b>139</b>	686	141	700	138	12	688	140	<b>705</b>	<b>137</b>	706	137
429.mcf	12	695	157	691	158	<b>692</b>	<b>158</b>	6	<b>291</b>	<b>188</b>	291	188	292	187
445.gobmk	12	<b>635</b>	<b>198</b>	635	198	631	199	12	582	216	<b>585</b>	<b>215</b>	586	215
456.hammer	12	<b>440</b>	<b>254</b>	440	255	441	254	6	193	291	192	291	<b>192</b>	<b>291</b>
458.sjeng	12	<b>785</b>	<b>185</b>	786	185	784	185	12	715	203	719	202	<b>718</b>	<b>202</b>
462.libquantum	12	<b>608</b>	<b>409</b>	608	409	609	409	12	<b>612</b>	<b>406</b>	612	406	613	406
464.h264ref	12	1029	258	<b>1018</b>	<b>261</b>	1007	264	12	986	269	988	269	<b>988</b>	<b>269</b>
471.omnetpp	12	685	109	686	109	<b>685</b>	<b>109</b>	12	672	112	<b>672</b>	<b>112</b>	671	112
473.astar	12	<b>769</b>	<b>109</b>	770	109	767	110	12	739	114	<b>738</b>	<b>114</b>	737	114
483.xalancbmk	12	439	188	442	188	<b>441</b>	<b>188</b>	12	439	188	442	188	<b>441</b>	<b>188</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 --localalloc --physcpubind was used to bind processes to cores and it's local memory.

Details on the parameters used may be found in the config file.

## Operating System Notes

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

## Platform Notes

BIOS configuration:

Data Reuse Optimization = Disabled

## Base Compiler Invocation

C benchmarks:

icc -m32

C++ benchmarks:

icpc -m32



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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:

-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/cmpllr/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.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

401.bzip2: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

```
456.hmmr: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -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.hmmr: -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: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
                -opt-prefetch

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

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
```

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## Peak Optimization Flags (Continued)

473.astar (continued):

-L/home/cmplr/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.20100316.01.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.20100316.01.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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