



# SPEC® CINT2006 Result

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Fujitsu

**SPECint®\_rate2006 = 146**

PRIMERGY BX920 S2, Intel Xeon L5609, 1.87 GHz

**SPECint\_rate\_base2006 = 136**

CPU2006 license: 19

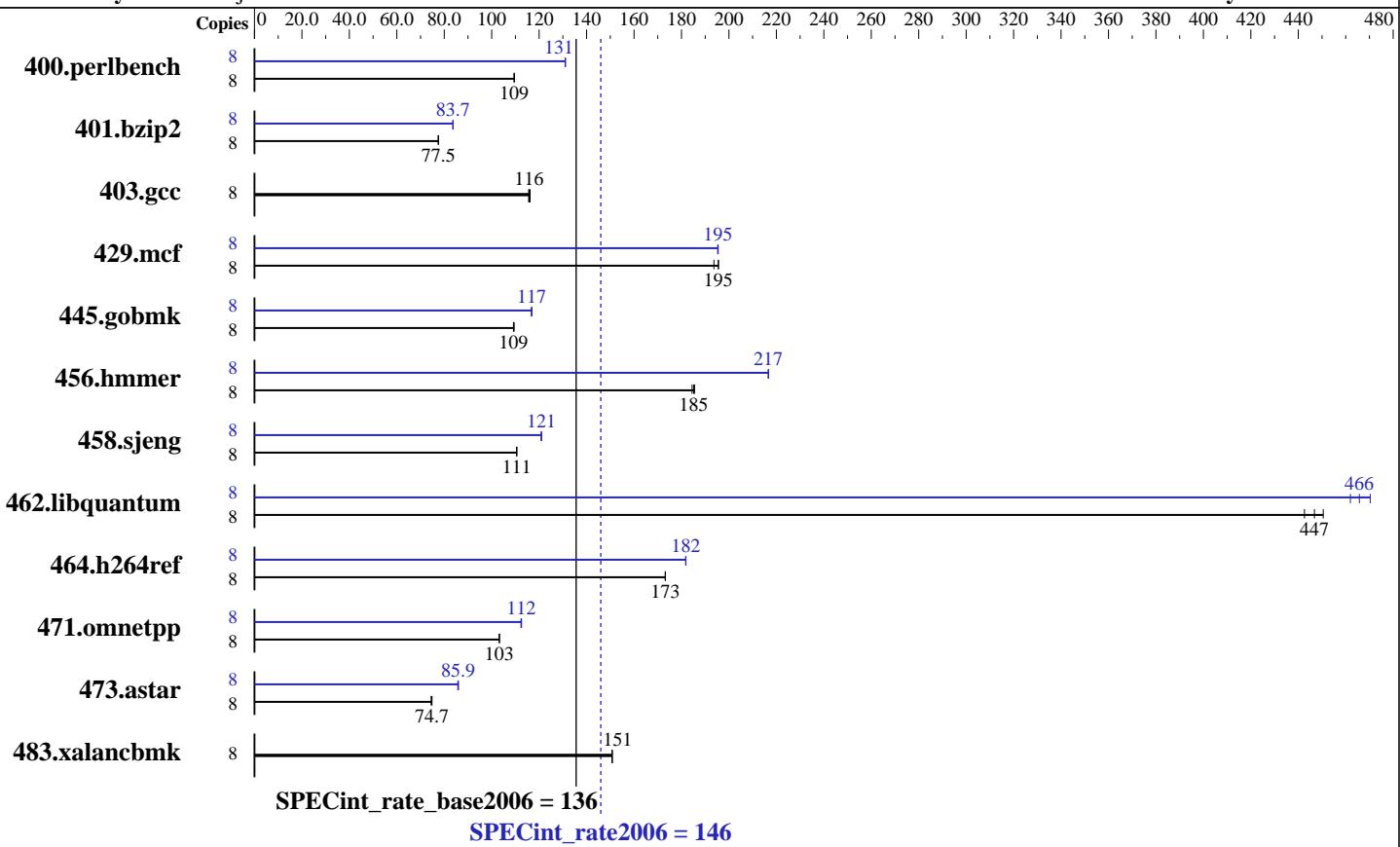
Test date: Jul-2010

Test sponsor: Fujitsu

Hardware Availability: Aug-2010

Tested by: Fujitsu

Software Availability: Jan-2010



## Hardware

CPU Name:	Intel Xeon L5609
CPU Characteristics:	
CPU MHz:	1867
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:	256 KB I+D on chip per core
L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (6x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes)
Disk Subsystem:	1 x SSD SATA, 64 GB
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	8	714	109	713	110	<b>714</b>	<b>109</b>	8	596	131	597	131	<b>597</b>	<b>131</b>
401.bzip2	8	995	77.6	996	77.5	<b>996</b>	<b>77.5</b>	8	922	83.7	923	83.7	<b>923</b>	<b>83.7</b>
403.gcc	8	557	116	<b>556</b>	<b>116</b>	554	116	8	557	116	<b>556</b>	<b>116</b>	554	116
429.mcf	8	377	194	373	196	<b>373</b>	<b>195</b>	8	373	195	<b>373</b>	<b>195</b>	374	195
445.gobmk	8	767	109	769	109	<b>768</b>	<b>109</b>	8	719	117	<b>718</b>	<b>117</b>	718	117
456.hmmer	8	<b>403</b>	<b>185</b>	402	186	405	184	8	345	217	<b>345</b>	<b>217</b>	345	217
458.sjeng	8	<b>876</b>	<b>111</b>	875	111	876	110	8	801	121	<b>800</b>	<b>121</b>	800	121
462.libquantum	8	<b>371</b>	<b>447</b>	375	443	368	451	8	<b>356</b>	<b>466</b>	359	462	352	470
464.h264ref	8	<b>1022</b>	<b>173</b>	1022	173	1022	173	8	974	182	<b>974</b>	<b>182</b>	973	182
471.omnetpp	8	<b>484</b>	<b>103</b>	485	103	484	103	8	445	112	<b>445</b>	<b>112</b>	444	113
473.astar	8	754	74.5	750	74.8	<b>751</b>	<b>74.7</b>	8	655	85.7	653	86.0	<b>654</b>	<b>85.9</b>
483.xalancbmk	8	366	151	366	151	<b>366</b>	<b>151</b>	8	366	151	366	151	<b>366</b>	<b>151</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

The system automatically configures the memory to run at 1067 MHz.  
BIOS configuration:  
Data Reuse Optimization = Disable

## 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`

462.libquantum: `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_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: basepeak = yes

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: -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.icl11.1/libicl11.1-32bit -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).

Tested with SPEC CPU2006 v1.1.

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