SPEC® CINT2006 Result

Supermicro

Motherboard X8SIL (Intel Xeon X3470, 2.93 GHz)

$SPECint^{®}\_rate2006 = 126$

$SPECint\_rate\_base2006 = 118$

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Apr-2011
Hardware Availability: Jan-2010
Software Availability: Jan-2010

SPECint_rate_base2006 = 118

SPECint_rate2006 = 126

Hardware

CPU Name:	Intel Xeon X3470
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 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:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (4 x 4 GB 2Rx8 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 160 GB SATA II, 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:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1

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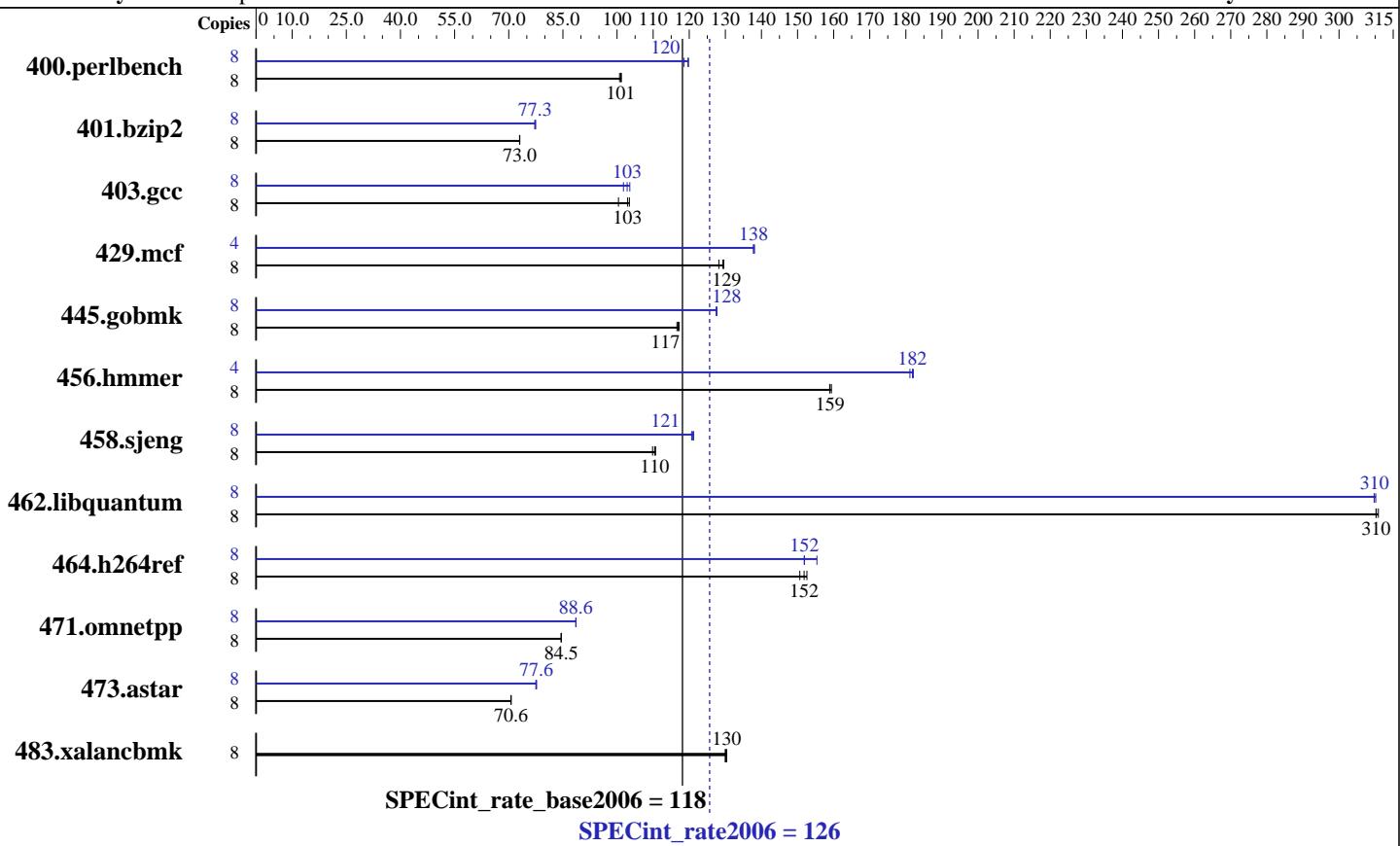
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Results Table

Benchmark		Base							Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	**774**	**101**	772	101	776	101	8	659	119	**653**	**120**	652	120
401.bzip2	8	1057	73.1	**1057**	**73.0**	1058	73.0	8	1000	77.2	996	77.5	**999**	**77.3**
403.gcc	8	623	103	641	100	**626**	**103**	8	622	104	**626**	**103**	633	102
429.mcf	8	569	128	**564**	**129**	563	130	4	264	138	**265**	**138**	265	138
445.gobmk	8	720	117	**718**	**117**	716	117	8	658	127	658	128	**658**	**128**
456.hmmer	8	**469**	**159**	468	159	470	159	4	205	182	206	181	**205**	**182**
458.sjeng	8	875	111	881	110	**877**	**110**	8	**801**	**121**	798	121	802	121
462.libquantum	8	533	311	534	310	**534**	**310**	8	534	310	**535**	**310**	535	310
464.h264ref	8	1175	151	**1166**	**152**	1160	153	8	1140	155	**1165**	**152**	1166	152
471.omnetpp	8	592	84.5	**591**	**84.5**	591	84.6	8	564	88.6	565	88.6	**564**	**88.6**
473.astar	8	**795**	**70.6**	796	70.6	795	70.7	8	725	77.5	**723**	**77.6**	723	77.7
483.xalancbmk	8	425	130	423	130	**424**	**130**	8	425	130	423	130	**424**	**130**

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 stack size to unlimited prior to run
```

Platform Notes

```
    Fan speed set to Full Speed in BIOS Setup.
    As tested, the system used a Supermicro CSE-111T-560CB chassis.
    The system includes a PWS-562-1H power supply, SNK-P0046P heatsink,
    and 4 FAN-0106L4 cooling fans.
```

General Notes

```
    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.hmmer: 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: -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 -unroll2
                  -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) -unroll4 -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) -unroll2 -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/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.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.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
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