SPEC® CINT2006 Result

Supermicro

Motherboard X8DAL-3 (Intel Xeon X5660, 2.80GHz)

SPECint®_rate2006 =   346

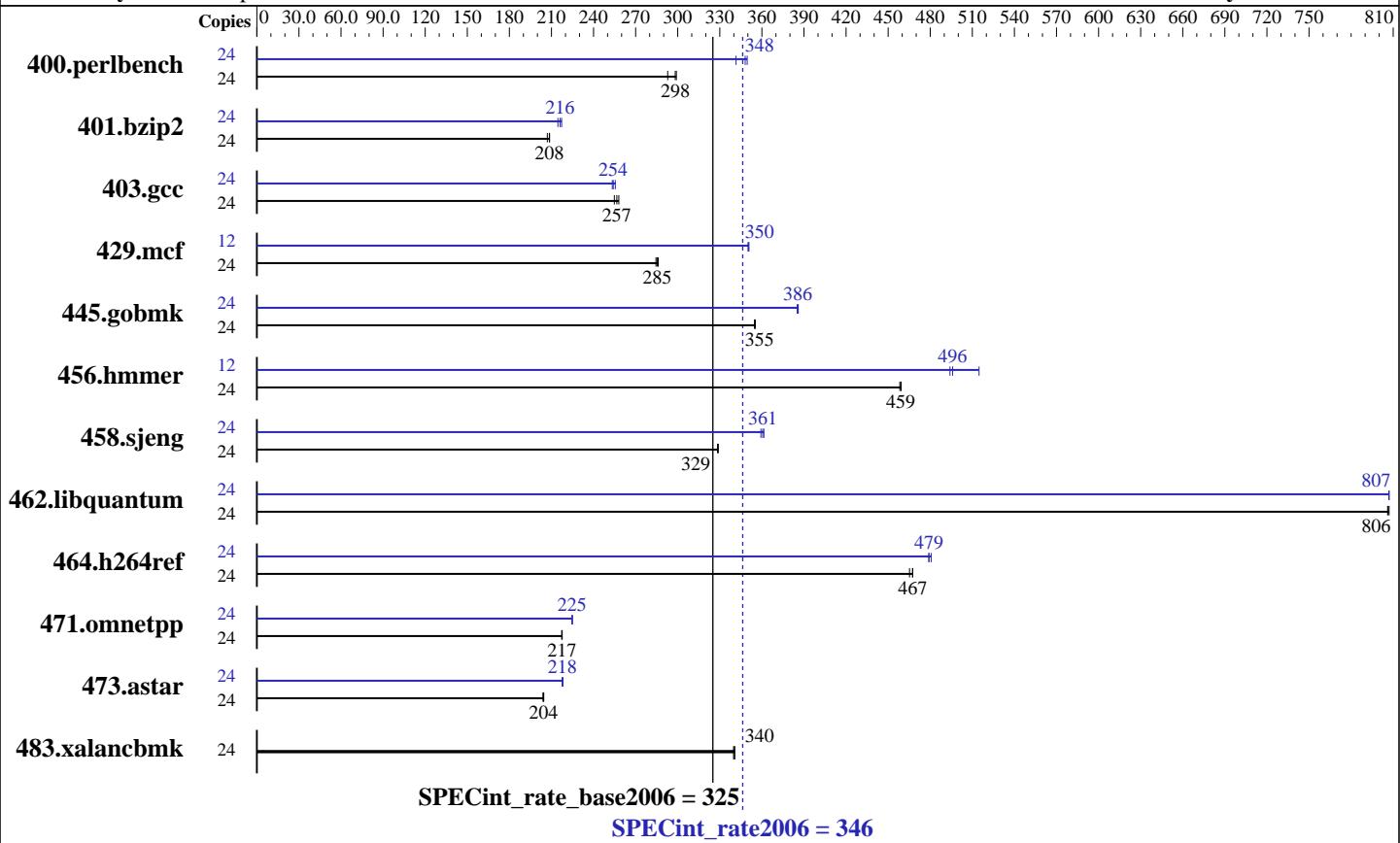SPECint_rate_base2006 = 325

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

Test date: Apr-2010
Hardware Availability: Mar-2010
Software Availability: Nov-2009

Copies

Benchmark	Copies	Value (peak)	Value (base)
400.perlbench	24 / 24	348	298
401.bzip2	24 / 24	216	208
403.gcc	24 / 24	254	257
429.mcf	12 / 24	350	285
445.gobmk	24 / 24	386	355
456.hmmer	12 / 24	496	459
458.sjeng	24 / 24	361	329
462.libquantum	24 / 24	807	806
464.h264ref	24 / 24	479	467
471.omnetpp	24 / 24	225	217
473.astar	24 / 24	218	204
483.xalancbmk	24		340

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Hardware

CPU Name: Intel Xeon X5660
CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz: 2800
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 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 (6 x 4 GB DDR3-1333 RDIMM, ECC, CL9)
Disk Subsystem: 1 x 300 GB SATA II, 7200 RPM
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64)
Kernel 2.6.16.60-0.54.5-smp
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: ReiserFS
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	24	784	299	801	293	**786**	**298**	24	686	342	**674**	**348**	671	350
401.bzip2	24	**1111**	**208**	1110	209	1119	207	24	1066	217	1079	215	**1071**	**216**
403.gcc	24	**753**	**257**	758	255	749	258	24	763	253	**760**	**254**	756	256
429.mcf	24	**767**	**285**	765	286	769	284	12	312	351	312	350	**312**	**350**
445.gobmk	24	710	355	**709**	**355**	709	355	24	652	386	654	385	**653**	**386**
456.hmmer	24	488	459	**488**	**459**	489	458	12	217	515	**226**	**496**	227	494
458.sjeng	24	883	329	**883**	**329**	884	328	24	808	359	**805**	**361**	803	361
462.libquantum	24	**617**	**806**	616	807	617	806	24	616	807	616	807	**616**	**807**
464.h264ref	24	1142	465	1136	467	**1136**	**467**	24	1105	481	**1109**	**479**	1109	479
471.omnetpp	24	**690**	**217**	689	218	690	217	24	667	225	**667**	**225**	667	225
473.astar	24	826	204	**824**	**204**	824	204	24	772	218	**773**	**218**	774	218
483.xalancbmk	24	487	340	**486**	**340**	486	341	24	487	340	**486**	**340**	486	341

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
SP645-PS power supply, 2 SNK-P0035AP4 heatsinks,
and 1 JMC1225-12HB, 1 SAN cooler XF-P01603,
2 Nidec UltraFlo T92T12MMA7-57 T072 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
```

Continued on next page

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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

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