SPEC® CINT2006 Result

Intel Corporation

Supermicro SuperServer 6026T-NTR+ (Intel Xeon E5520, 2.26 GHz)

SPECint®_rate2006 = 202

SPECint_rate_base2006 = 187
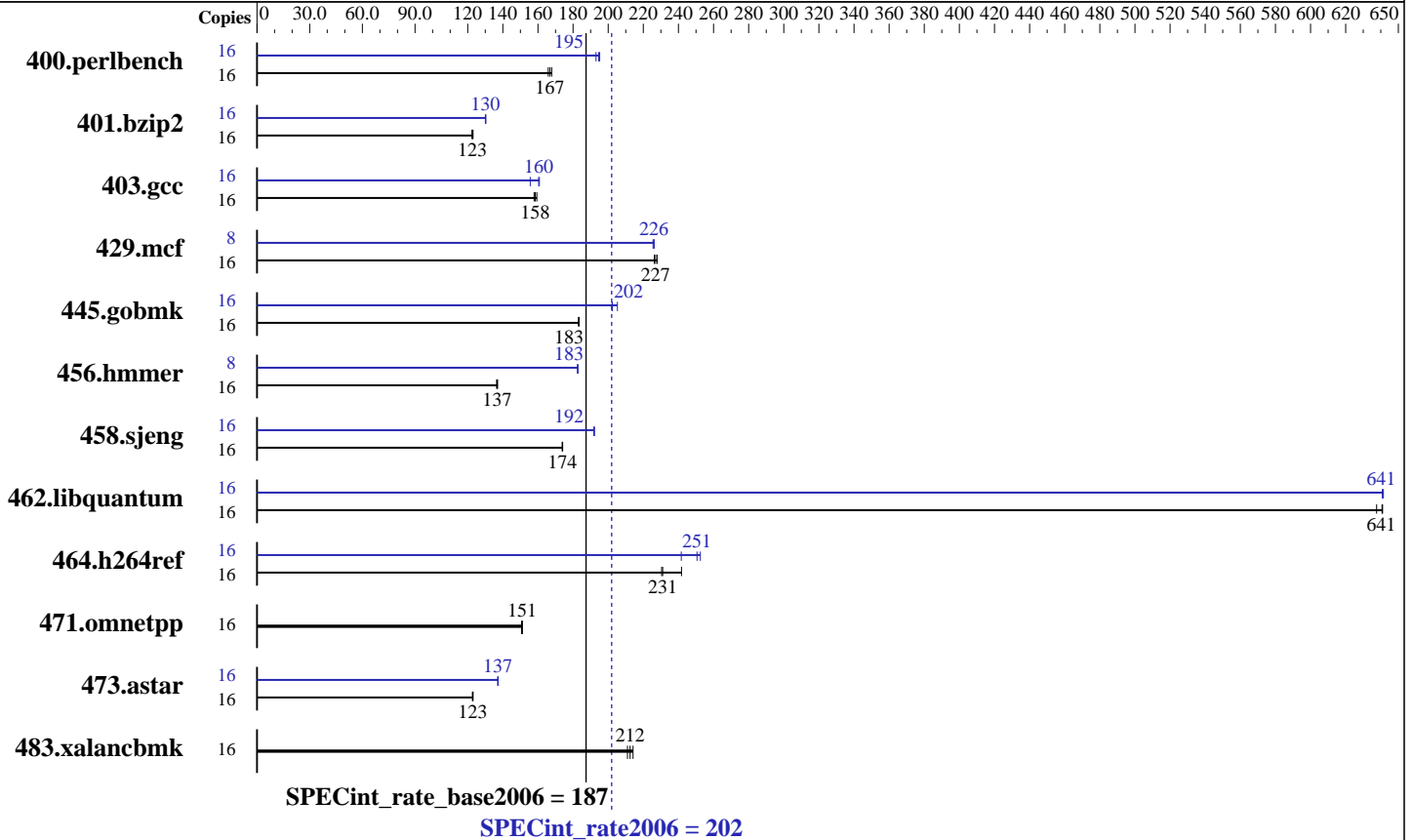
CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Feb-2009

Hardware Availability: Mar-2009

Software Availability: Feb-2009

Copies

Benchmark		
400.perlbench	16	195
	16	167
401.bzip2	16	130
	16	123
403.gcc	16	160
	16	158
429.mcf	8	226
	16	227
445.gobmk	16	202
	16	183
456.hmmer	8	183
	16	137
458.sjeng	16	192
	16	174
462.libquantum	16	641
	16	641
464.h264ref	16	251
	16	231
471.omnetpp	16	151
473.astar	16	137
	16	123
483.xalancbmk	16	212

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Hardware

CPU Name:	Intel Xeon E5520
CPU Characteristics:	Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz:	2267
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 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:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (12 x 2GB DDR3-1067, CL7)
Disk Subsystem:	1 x 150 GB SATA, 10000RPM
Other Hardware:	None

Software

Operating System:	SuSe Linux SLES10 SP2, Kernel 2.6.16.60-0.34-smp for x86_64
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
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 Binutils 2.18.50.0.7.20080502

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	**937**	**167**	943	166	931	168	16	801	195	810	193	**803**	**195**
401.bzip2	16	1261	122	**1258**	**123**	1255	123	16	**1186**	**130**	1187	130	1184	130
403.gcc	16	**813**	**158**	808	159	816	158	16	801	161	**803**	**160**	828	156
429.mcf	16	640	228	**643**	**227**	645	226	8	323	226	**323**	**226**	323	226
445.gobmk	16	**916**	**183**	915	183	917	183	16	818	205	**829**	**202**	830	202
456.hmmer	16	1090	137	**1091**	**137**	1094	136	8	**409**	**183**	409	183	408	183
458.sjeng	16	1112	174	1114	174	**1113**	**174**	16	**1008**	**192**	1008	192	1009	192
462.libquantum	16	**517**	**641**	517	641	520	638	16	**517**	**641**	517	641	517	641
464.h264ref	16	1465	242	**1533**	**231**	1536	230	16	1402	252	**1413**	**251**	1465	242
471.omnetpp	16	**662**	**151**	662	151	664	151	16	**662**	**151**	662	151	664	151
473.astar	16	916	123	**914**	**123**	913	123	16	818	137	**818**	**137**	819	137
483.xalancbmk	16	515	214	**520**	**212**	523	211	16	515	214	**520**	**212**	523	211

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
```

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

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 -inline-calloc
    -opt-malloc-options=3 -opt-prefetch
```

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/spec/cpu2006.1.1/lib -lsmartheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc

    401.bzip2: `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

    456.hmmer: `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

    458.sjeng: `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

C++ benchmarks (except as noted below):
    icpc

    473.astar: `/opt/intel/Compiler/11.0/080/bin/intel64/icpc`

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` `-opt-prefetch`

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Peak Optimization Flags (Continued)

```
    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 -inline-calloc
               -opt-malloc-options=3

      429.mcf: -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

    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
               -opt-malloc-options=3 -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: basepeak = yes

    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 -auto-ilp32
               -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

   483.xalancbmk: basepeak = yes
```

Peak Other Flags

C benchmarks:

```
      403.gcc: -Dalloca=_alloca
```

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Test sponsor:	Intel Corporation	**Hardware Availability:**	Mar-2009
Tested by:	Intel Corporation	**Software Availability:**	Feb-2009

The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.html

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

http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.xml

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For other inquiries, please contact webmaster@spec.org.

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