SPEC® CINT2006 Result

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Supermicro

(Test Sponsor: Intel Corporation)

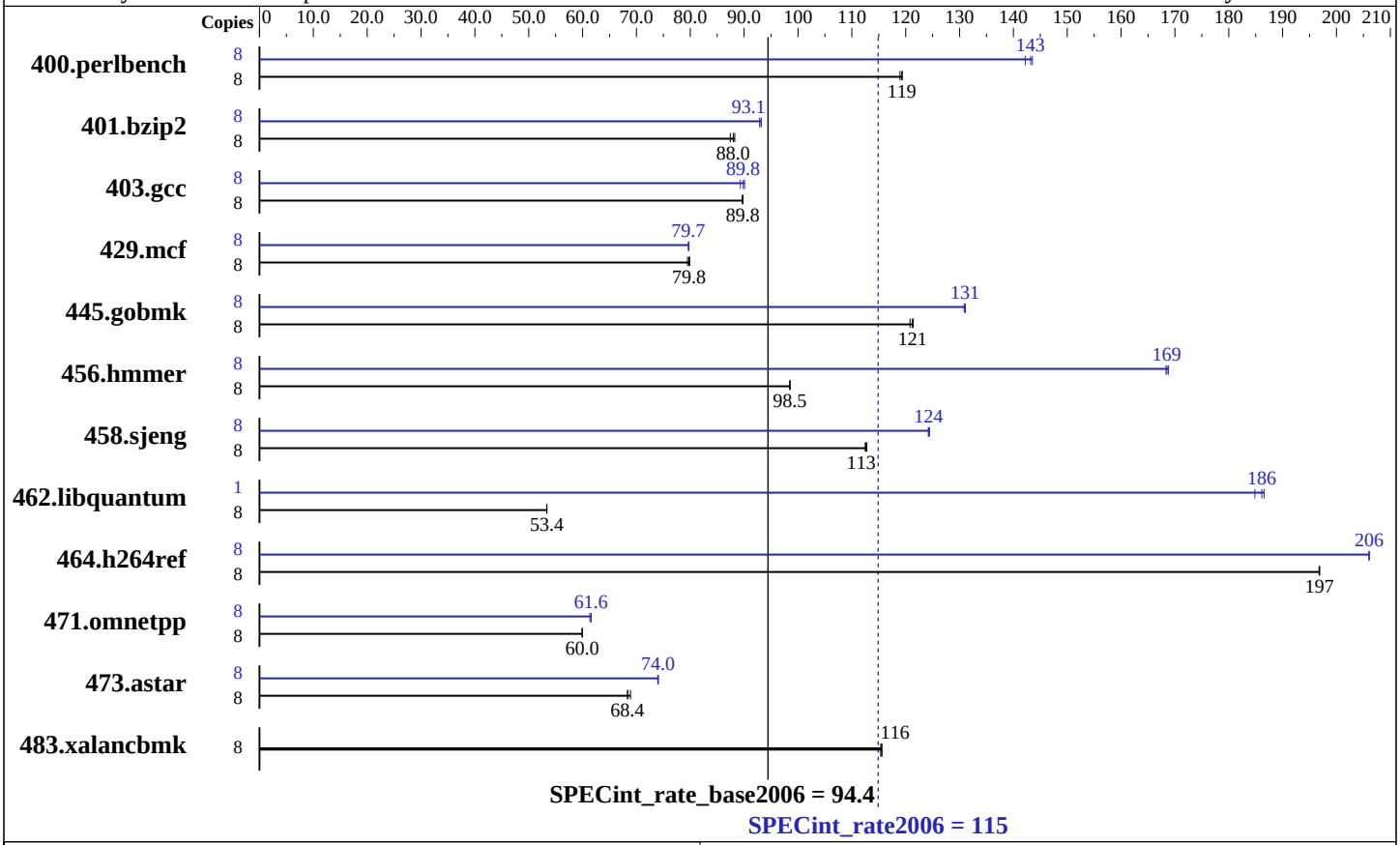
Supermicro X7DB8+ (Intel Xeon processor E5410, 2.33 GHz)

SPECint®_rate2006 = 115

SPECint_rate_base2006 = 94.4

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Nov-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon E5410
CPU Characteristics:	Quad Core, 2.33 GHz
CPU MHz:	2333
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:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8 * 2GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1x73GB Seagate ST37330LC SCSI 10K RPM
Other Hardware:	None

Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10 SP1 RC1, Kernel linux-cbgm 2.6.16.43-0.5-smp for x86_64
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap library V8.1 Binutils 2.17.50.0.15

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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	**655**	**119**	655	119	657	119	8	550	142	**546**	**143**	545	144
401.bzip2	8	883	87.4	875	88.3	**877**	**88.0**	8	**829**	**93.1**	831	92.9	828	93.2
403.gcc	8	**717**	**89.8**	717	89.8	718	89.6	8	715	90.1	721	89.3	**717**	**89.8**
429.mcf	8	**915**	**79.8**	918	79.5	913	79.9	8	916	79.7	915	79.8	**916**	**79.7**
445.gobmk	8	691	121	**692**	**121**	695	121	8	641	131	**641**	**131**	640	131
456.hmmer	8	758	98.5	**758**	**98.5**	758	98.5	8	442	169	443	168	**443**	**169**
458.sjeng	8	861	112	858	113	**860**	**113**	8	**779**	**124**	778	124	779	124
462.libquantum	8	**3107**	**53.4**	3106	53.4	3107	53.3	1	112	185	**111**	**186**	111	187
464.h264ref	8	**899**	**197**	899	197	900	197	8	**859**	**206**	859	206	859	206
471.omnetpp	8	**834**	**60.0**	835	59.9	834	60.0	8	**812**	**61.6**	815	61.3	812	61.6
473.astar	8	815	68.9	**822**	**68.4**	822	68.4	8	758	74.1	759	74.0	**759**	**74.0**
483.xalancbmk	8	479	115	**478**	**116**	478	116	8	479	115	**478**	**116**	478	116

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

```
Bios settings:
Hardware Prefetcher:      Enabled
Adjacent Sector Prefetch: Disabled
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
The taskset utility was used to bind processes to 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:
```
-fast -inline-calloc -opt-malloc-options=3
```

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/users/rahul/cpu2006.1.0/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/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include
```

456.hmmer:
```
/opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include
```

C++ benchmarks:
```
icpc
```

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

400.perlbench: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -ansi-alias -prefetch`

401.bzip2: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -prefetch`

403.gcc: `-fast -inline-calloc -opt-malloc-options=3`

429.mcf: `-fast -prefetch`

445.gobmk: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O2 -ipo -no-prec-div -ansi-alias`

456.hmmer: `-fast -unroll2 -ansi-alias -opt-multi-version-aggressive`

458.sjeng: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4`

462.libquantum: `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control`

464.h264ref: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -ansi-alias`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap`

473.astar: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap`

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-ic10-ia32-intel64-linux-flags.20090714.36.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.36.xml`

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