SPEC® CINT2006 Result

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Sun Microsystems

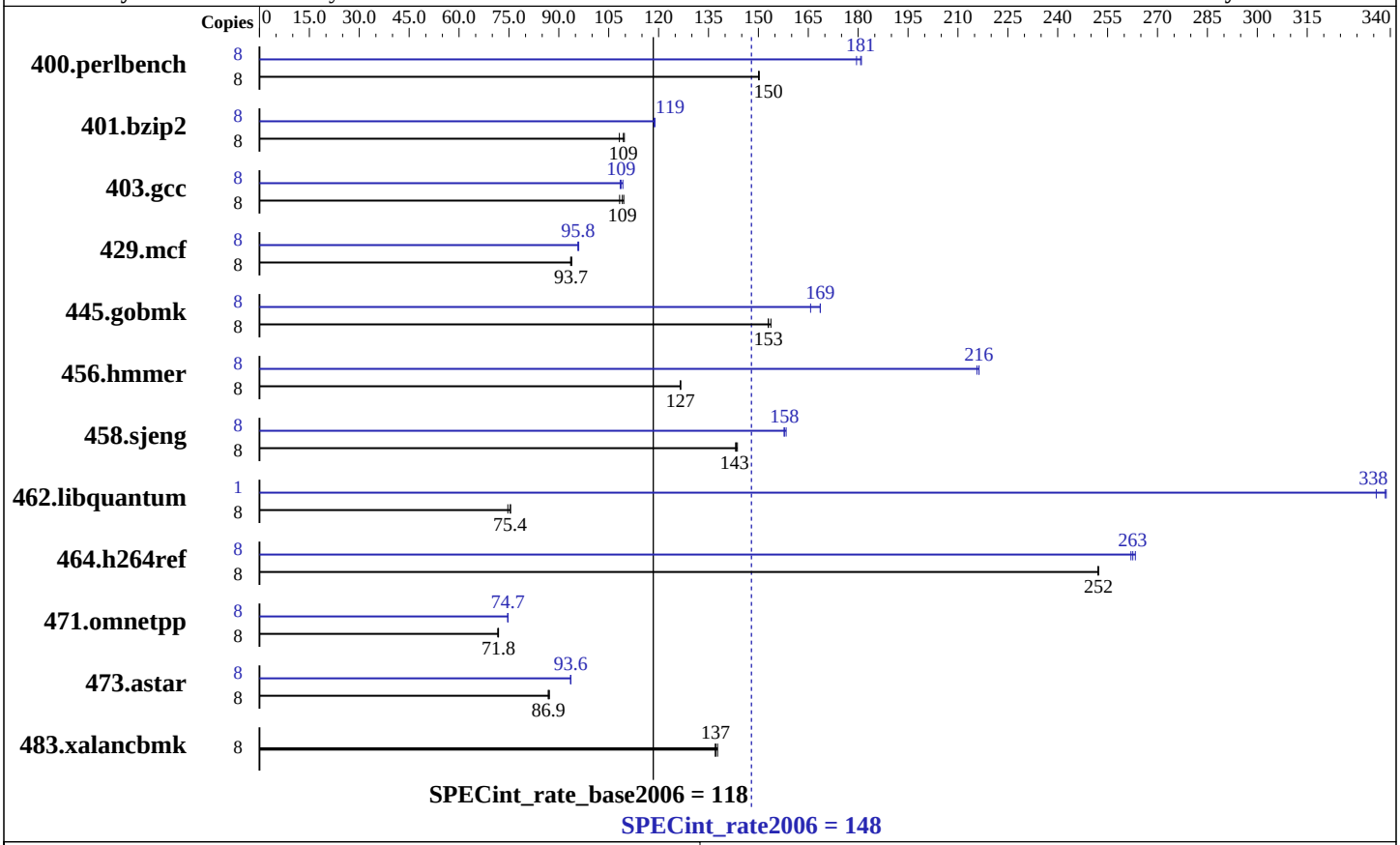
Sun Fire X2250 (Intel Xeon X5472 3.0GHz)

SPECint®_rate2006 = 148

SPECint_rate_base2006 = 118

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Aug-2008
Hardware Availability: Aug-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5472
CPU Characteristics:	
CPU MHz:	3000
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 (4*4GB Dual-rank PC2-6400 CL5-5-5 FB-DIMMs)
Disk Subsystem:	SATA, 500 GB, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070913
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 8.1 32-bit Library for Linux Binutils 2.17.10.50

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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	520	150	521	150	**521**	**150**	8	**432**	**181**	432	181	435	180
401.bzip2	8	704	110	713	108	**706**	**109**	8	**650**	**119**	649	119	651	119
403.gcc	8	**590**	**109**	588	110	595	108	8	594	108	589	109	**592**	**109**
429.mcf	8	777	93.9	780	93.6	**778**	**93.7**	8	**761**	**95.8**	762	95.8	760	96.0
445.gobmk	8	549	153	546	154	**548**	**153**	8	506	166	**498**	**169**	498	169
456.hmmer	8	589	127	590	127	**590**	**127**	8	346	216	**345**	**216**	345	216
458.sjeng	8	**675**	**143**	674	144	676	143	8	**613**	**158**	614	158	611	158
462.libquantum	8	2220	74.7	**2199**	**75.4**	2196	75.5	1	61.7	336	61.2	339	**61.2**	**338**
464.h264ref	8	**702**	**252**	702	252	702	252	8	672	263	**674**	**263**	676	262
471.omnetpp	8	**696**	**71.8**	698	71.6	696	71.9	8	669	74.7	**669**	**74.7**	670	74.6
473.astar	8	644	87.2	**647**	**86.9**	647	86.9	8	600	93.6	**600**	**93.6**	600	93.6
483.xalancbmk	8	403	137	401	138	**402**	**137**	8	403	137	401	138	**402**	**137**

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

Compiler Invocation Notes

```
OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 64M
KMP_AFFINITY set to physical,0
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.
```

Platform Notes

```
Default BIOS configuration used (includes this settings):
Hardware Prefetch : Enabled; Adjacent Sector Prefetch : Disabled
```

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/data1/SmartHeap_8.1/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/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

462.libquantum: /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:

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 -auto-ilp32 -unroll4 -ansi-alias -opt-multi-version-aggressive -vec-guard-write

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 -O3 -auto-ilp32 -unroll8 -Ob0 -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control -no-prec-div -opt-ra-region-strategy=routine

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/data1/SmartHeap_8.1/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/data1/SmartHeap_8.1/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.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.xml`

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