SPEC® CINT2006 Result

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Sun Microsystems

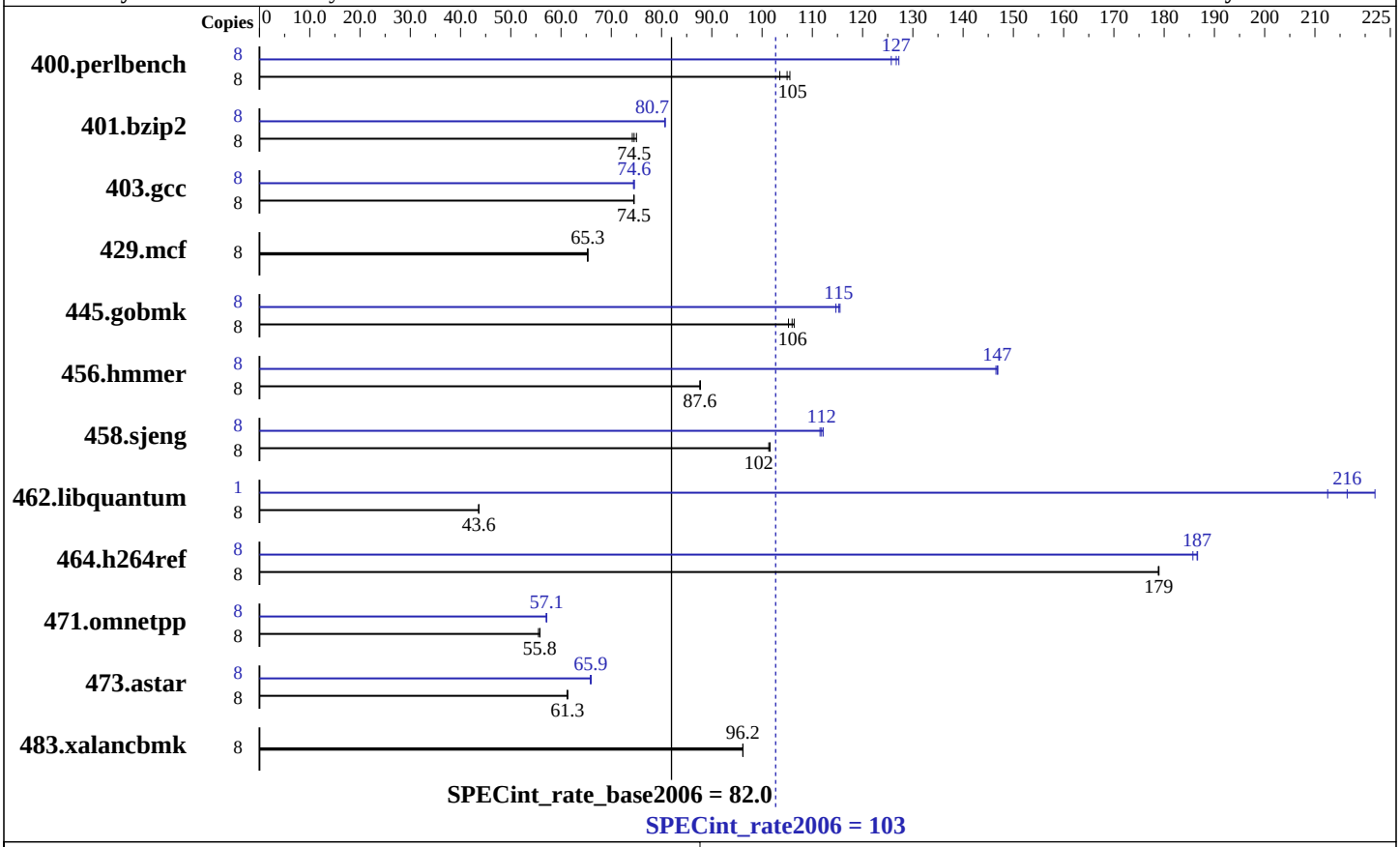
Sun Netra X4250 (Intel Xeon L5408 2.13GHz)

SPECint®_rate2006 = 103

SPECint_rate_base2006 = 82.0

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 L5408
CPU Characteristics:	
CPU MHz:	2133
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	2,4 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:	64 GB (16x4 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	SAS, 146GB, 10K 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:	Binutils 2.17.10.50 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	8	755	104	**745**	**105**	741	106	8	614	127	**617**	**127**	622	126
401.bzip2	8	**1036**	**74.5**	1041	74.2	1029	75.0	8	957	80.7	**957**	**80.7**	956	80.7
403.gcc	8	**864**	**74.5**	864	74.5	865	74.5	8	865	74.4	**864**	**74.6**	864	74.6
429.mcf	8	**1117**	**65.3**	1116	65.4	1118	65.3	8	**1117**	**65.3**	1116	65.4	1118	65.3
445.gobmk	8	789	106	797	105	**792**	**106**	8	732	115	**728**	**115**	727	116
456.hmmer	8	852	87.6	851	87.7	**852**	**87.6**	8	508	147	**508**	**147**	509	147
458.sjeng	8	**954**	**102**	955	101	953	102	8	**866**	**112**	863	112	868	112
462.libquantum	8	**3798**	**43.6**	3798	43.6	3800	43.6	1	93.4	222	97.5	213	**95.7**	**216**
464.h264ref	8	**990**	**179**	990	179	989	179	8	**949**	**187**	948	187	953	186
471.omnetpp	8	896	55.8	901	55.5	**897**	**55.8**	8	875	57.2	**875**	**57.1**	877	57.0
473.astar	8	918	61.2	**916**	**61.3**	916	61.3	8	851	66.0	853	65.9	**852**	**65.9**
483.xalancbmk	8	574	96.2	**574**	**96.2**	574	96.2	8	574	96.2	**574**	**96.2**	574	96.2

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

Operating System Notes

```
taskset was used to bind processes to cores except for 462.libquantum peak

'ulimit -s unlimited' was used to set the stacksize to unlimited
OMP_NUM_THREADS set to number of cores.
KMP_STACKSIZE set to 64M
KMP_AFFINITY set to physical,0
```

Platform Notes

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

General Notes

```
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer and
462.libquantum for peak, are compiled in 64-bit mode
```

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: basepeak = yes

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.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.xml`

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