SPEC® CINT2006 Result

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Sun Microsystems

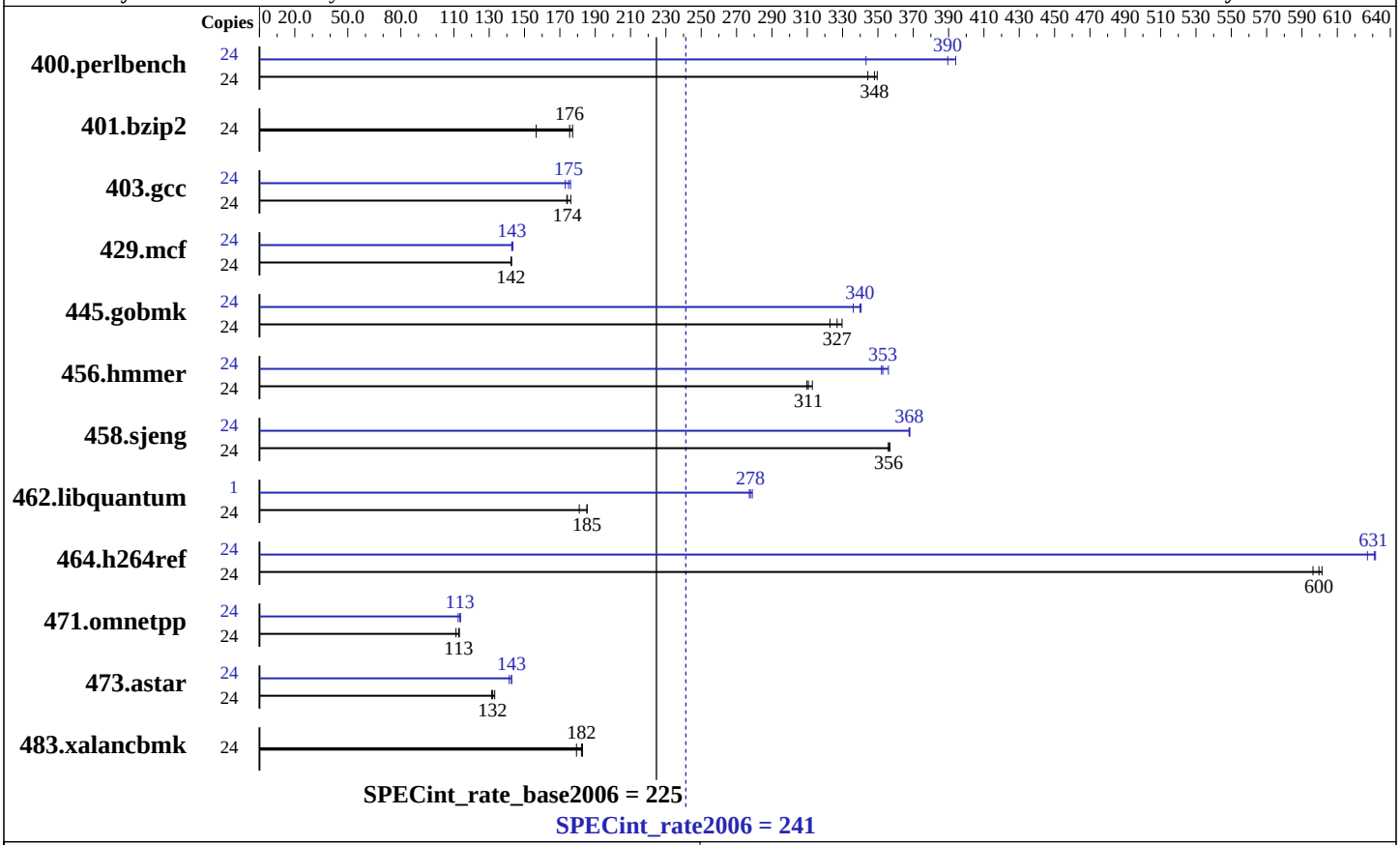
Sun Blade X6450 (Intel Xeon E7450 2.4GHz)

SPECint®_rate2006 = 241

SPECint_rate_base2006 = 225

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

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



Hardware

CPU Name:	Intel Xeon E7450
CPU Characteristics:	
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	24 cores, 4 chips, 6 cores/chip
CPU(s) orderable:	2,4 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	9 MB I+D on chip per chip, 3 MB shared / 2 cores
L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (16x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	Compact Flash, 16 GB for Linux SAS, 72 GB,10 K RPM via NFS for SPEC CPU2006
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++ Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042
Auto Parallel:	Yes
File System:	NFSv3 (See additional details below)
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Binutils 2.18.50.0.7.20080502 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	681	344	671	350	**674**	**348**	24	683	343	**602**	**390**	595	394
401.bzip2	24	1479	157	**1319**	**176**	1307	177	24	1479	157	**1319**	**176**	1307	177
403.gcc	24	1097	176	1111	174	**1109**	**174**	24	**1104**	**175**	1097	176	1116	173
429.mcf	24	1538	142	1534	143	**1537**	**142**	24	1526	143	1533	143	**1531**	**143**
445.gobmk	24	780	323	764	330	**770**	**327**	24	749	336	**741**	**340**	739	341
456.hmmer	24	**721**	**311**	723	310	716	313	24	636	352	**635**	**353**	629	356
458.sjeng	24	816	356	814	357	**816**	**356**	24	789	368	**790**	**368**	790	368
462.libquantum	24	2682	185	2748	181	**2683**	**185**	1	74.7	277	**74.6**	**278**	74.3	279
464.h264ref	24	891	596	883	601	**886**	**600**	24	847	627	**842**	**631**	841	632
471.omnetpp	24	1326	113	1349	111	**1330**	**113**	24	1318	114	1334	112	**1322**	**113**
473.astar	24	1265	133	1283	131	**1276**	**132**	24	1181	143	1192	141	**1181**	**143**
483.xalancbmk	24	923	179	906	183	**909**	**182**	24	923	179	906	183	**909**	**182**

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.
```

Operating System Notes

```
taskset was used to bind processes to cores except for 462.libquantum peak
NFS for file system: Sun Fire X4440 with 1 x SAS,72 GB,10 K RPM
both client and server use onboard ethernet ports connected
to a 10/100 Ethernet switch.


'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 : Disabled; Adjacent Sector Prefetch : Disabled
```

General Notes

```
All benchmarks compiled in 32-bit mode except 456.hmmer
for peak, was 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:
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSE4.1 -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

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
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) -xSSE4.1 -ipo -O3
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: basepeak = yes

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo
-no-prec-div -ansi-alias

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static
-opt-malloc-options=3 -parallel -par-runtime-control
-opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/spec/cpu2006.1.1/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-ic11.0-int-linux64-revA.20090713.07.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.20090713.07.xml`

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