SPEC® CINT2006 Result

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Dell Inc.

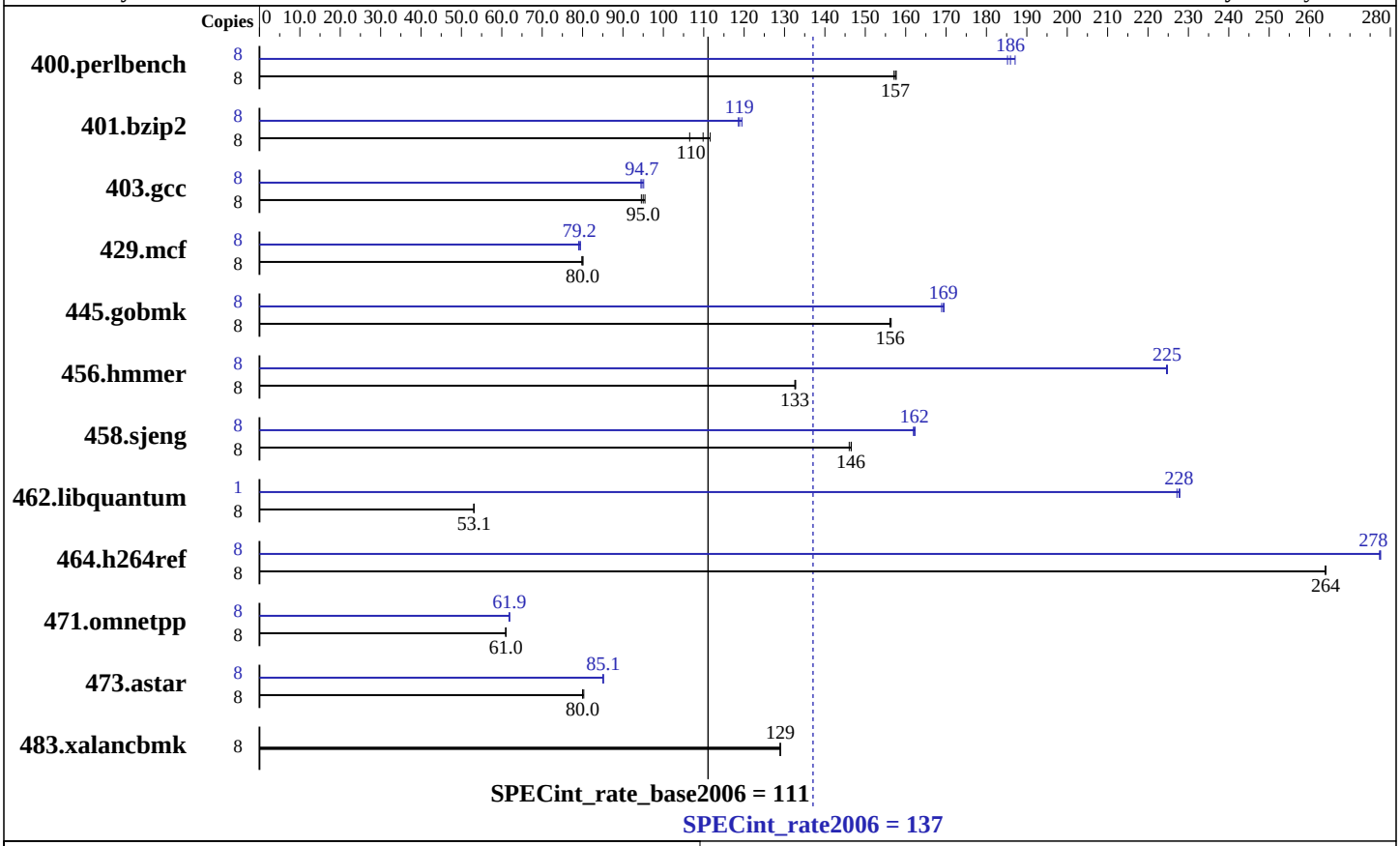
PowerEdge 2900 III (Intel Xeon X5460, 3.16 GHz)

SPECint®_rate2006 = 137

SPECint_rate_base2006 = 111

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Jul-2008
Hardware Availability: Nov-2007
Software Availability: May-2008



Hardware

CPU Name:	Intel Xeon X5460
CPU Characteristics:	
CPU MHz:	3166
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 x 2 GB, DDR2-667 MHz, CL5, Reg, Dual Rank)
Disk Subsystem:	2 x 73 GB GB SAS, 15000 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2 Kernel 2.6.16-60.0.21-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20080312 Package ID: l_cc_p_10.1.015
Auto Parallel:	Yes
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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	**496**	**157**	497	157	496	158	8	422	185	418	187	**420**	**186**
401.bzip2	8	692	112	725	107	**703**	**110**	8	**649**	**119**	651	119	646	119
403.gcc	8	681	94.6	**678**	**95.0**	675	95.5	8	**680**	**94.7**	677	95.1	682	94.4
429.mcf	8	911	80.1	914	79.8	**912**	**80.0**	8	923	79.0	918	79.5	**921**	**79.2**
445.gobmk	8	**537**	**156**	537	156	538	156	8	495	169	**496**	**169**	497	169
456.hmmer	8	562	133	**563**	**133**	563	133	8	332	225	332	225	**332**	**225**
458.sjeng	8	663	146	661	147	**661**	**146**	8	598	162	**597**	**162**	596	162
462.libquantum	8	3122	53.1	**3122**	**53.1**	3122	53.1	1	**91.0**	**228**	91.2	227	90.9	228
464.h264ref	8	671	264	671	264	**671**	**264**	8	638	277	638	278	**638**	**278**
471.omnetpp	8	819	61.0	820	61.0	**820**	**61.0**	8	809	61.8	**808**	**61.9**	807	61.9
473.astar	8	**702**	**80.0**	699	80.3	702	80.0	8	661	85.0	**660**	**85.1**	659	85.2
483.xalancbmk	8	428	129	428	129	**428**	**129**	8	428	129	428	129	**428**	**129**

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.
```

Platform Notes

```
BIOS Settings:
Adjacent Cache Line Prefetch = Disabled (default = Enabled)
```

General Notes

```
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
taskset was used to bind processes to cores except
for 462.libquantum peak
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M
```

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/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/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/include

456.hmmer: /opt/intel/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/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

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Peak Portability Flags (Continued)

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 -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/cpu2006.1.1/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/spec/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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Peak Other Flags (Continued)

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.00.html`
`http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.00.xml`
`http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.xml`

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