SPEC® CINT2006 Result

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Dell Inc.

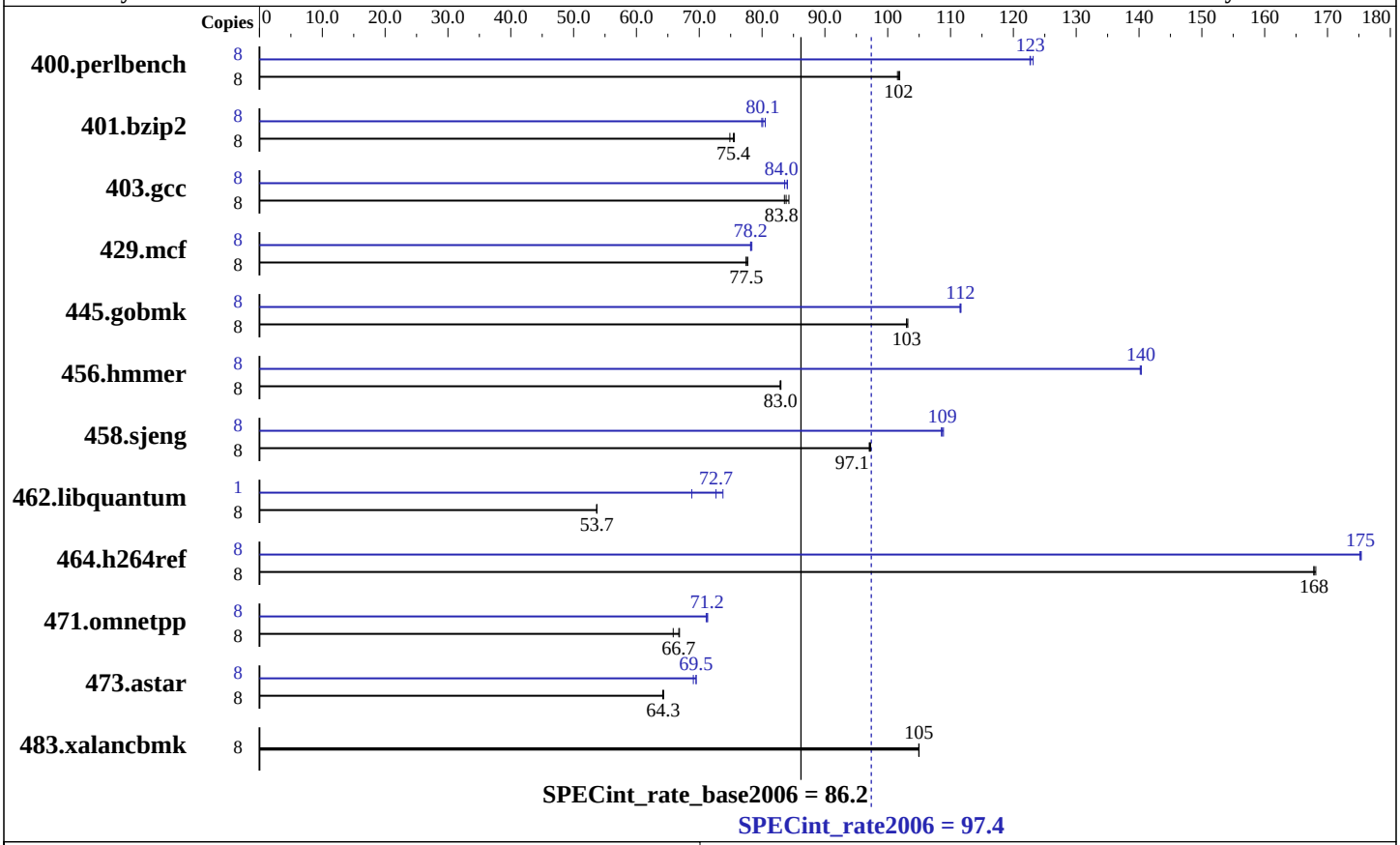
PowerEdge 2950 III (Intel Xeon E5405, 2.00 GHz)

SPECint®_rate2006 = 97.4

SPECint_rate_base2006 = 86.2

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

Test date: Feb-2008
Hardware Availability: Jan-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon E5405
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2000
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 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem:	1 x 73 GB 15000 RPM SAS
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 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
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 library 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	**768**	**102**	770	102	767	102	8	**637**	**123**	637	123	635	123
401.bzip2	8	**1023**	**75.4**	1021	75.6	1031	74.9	8	966	80.0	**964**	**80.1**	959	80.5
403.gcc	8	**768**	**83.8**	771	83.6	764	84.3	8	**767**	**84.0**	766	84.0	770	83.6
429.mcf	8	942	77.4	939	77.7	**941**	**77.5**	8	**933**	**78.2**	933	78.2	931	78.4
445.gobmk	8	813	103	815	103	**814**	**103**	8	753	112	**752**	**112**	752	112
456.hmmer	8	899	83.0	**900**	**83.0**	901	82.9	8	532	140	**532**	**140**	532	140
458.sjeng	8	995	97.3	**997**	**97.1**	997	97.1	8	892	109	889	109	**891**	**109**
462.libquantum	8	3088	53.7	3087	53.7	**3087**	**53.7**	1	281	73.8	**285**	**72.7**	301	68.8
464.h264ref	8	1053	168	1055	168	**1055**	**168**	8	1011	175	**1010**	**175**	1009	175
471.omnetpp	8	748	66.9	759	65.9	**749**	**66.7**	8	703	71.1	701	71.3	**702**	**71.2**
473.astar	8	875	64.2	873	64.3	**874**	**64.3**	8	**808**	**69.5**	808	69.5	813	69.1
483.xalancbmk	8	526	105	**526**	**105**	526	105	8	526	105	**526**	**105**	526	105

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
'/usr/bin/taskset' used to bind processes to CPUs
```

Platform Notes

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

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`

Continued on next page

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/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-ic10.1-INT-ia32-linux-flags.20090713.03.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090713.03.xml`

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