SPEC® CINT2006 Result

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Dell Inc.

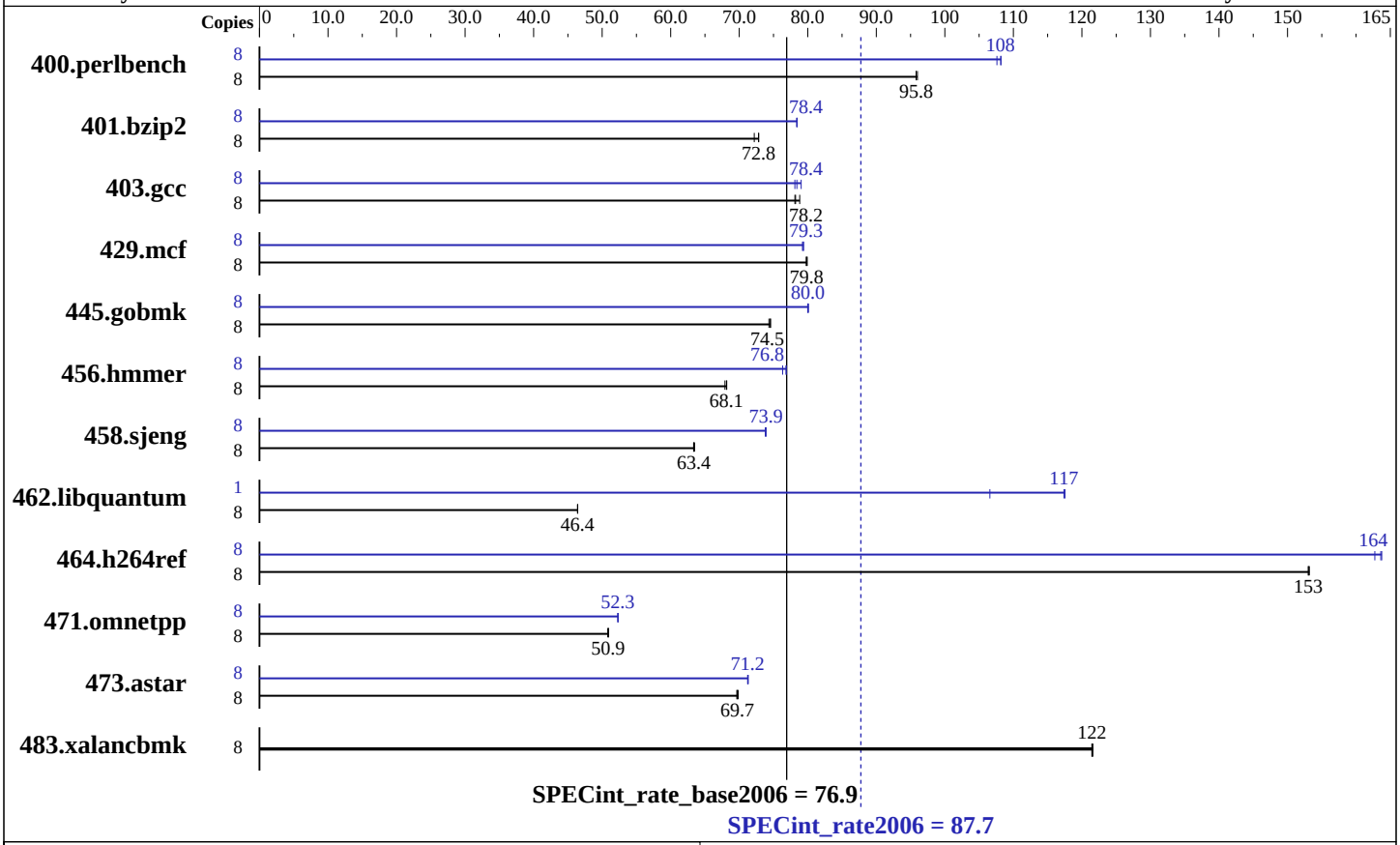
PowerEdge 6850 (Intel Xeon 7140M, 3.40 GHz)

SPECint®_rate2006 = 87.7

SPECint_rate_base2006 = 76.9

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

Test date: Oct-2007
Hardware Availability: Aug-2006
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon 7140M
CPU Characteristics:	800 MHz system bus
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	1,2,4 chips
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (16 x 1 GB ECC 400 MHz DDR2 SDRAM)
Disk Subsystem:	2 x 36 GB SCSI 15k RPM
Other Hardware:	None

Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10 SP1
Compiler:	Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070725
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 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	**816**	**95.8**	814	96.0	816	95.8	8	726	108	**723**	**108**	722	108
401.bzip2	8	1060	72.8	**1060**	**72.8**	1069	72.2	8	985	78.4	**984**	**78.4**	984	78.4
403.gcc	8	**823**	**78.2**	824	78.1	817	78.8	8	824	78.1	**821**	**78.4**	815	79.0
429.mcf	8	915	79.8	913	79.9	**914**	**79.8**	8	919	79.4	921	79.2	**920**	**79.3**
445.gobmk	8	**1126**	**74.5**	1129	74.3	1125	74.6	8	1048	80.1	**1049**	**80.0**	1049	80.0
456.hmmer	8	**1095**	**68.1**	1095	68.2	1099	67.9	8	971	76.9	978	76.3	**971**	**76.8**
458.sjeng	8	1525	63.5	**1528**	**63.4**	1528	63.3	8	1312	73.8	1310	73.9	**1310**	**73.9**
462.libquantum	8	3572	46.4	**3571**	**46.4**	3570	46.4	1	176	118	194	107	**177**	**117**
464.h264ref	8	1157	153	1156	153	**1157**	**153**	8	1088	163	1081	164	**1082**	**164**
471.omnetpp	8	**983**	**50.9**	981	50.9	984	50.8	8	**956**	**52.3**	956	52.3	956	52.3
473.astar	8	**806**	**69.7**	806	69.6	804	69.8	8	**788**	**71.2**	788	71.2	787	71.3
483.xalancbmk	8	454	122	455	121	**454**	**122**	8	454	122	455	121	**454**	**122**

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:
Logical Processor = Disabled (default Enabled)
```

General Notes

```
This result was measured on the Dell PowerEdge 6800.
The PowerEdge 6800 and PowerEdge 6850 are electronically equivalent.
```

Base Compiler Invocation

C benchmarks:

```
icc
```

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Base Compiler Invocation (Continued)

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:
-xP -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3

C++ benchmarks:
-xP -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/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: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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) -xP -ipo -O3
-no-prec-div -static -ansi-alias -prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -prefetch

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

429.mcf: -xP -ipo -O3 -no-prec-div -static -prefetch

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

456.hmmer: -xP -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias
-opt-multi-version-aggressive

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

462.libquantum: -xP -ipo -O3 -no-prec-div -static -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) -xP -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xP -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xP -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

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Peak Optimization Flags (Continued)

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.20090714.30.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.20090714.30.xml`

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For other inquiries, please contact webmaster@spec.org.

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