



SPEC® CINT2006 Result

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Dell Inc.

SPECint®_rate2006 = 87.7

PowerEdge 6850 (Intel Xeon 7140M, 3.40 GHz)

SPECint_rate_base2006 = 76.9

CPU2006 license: 55

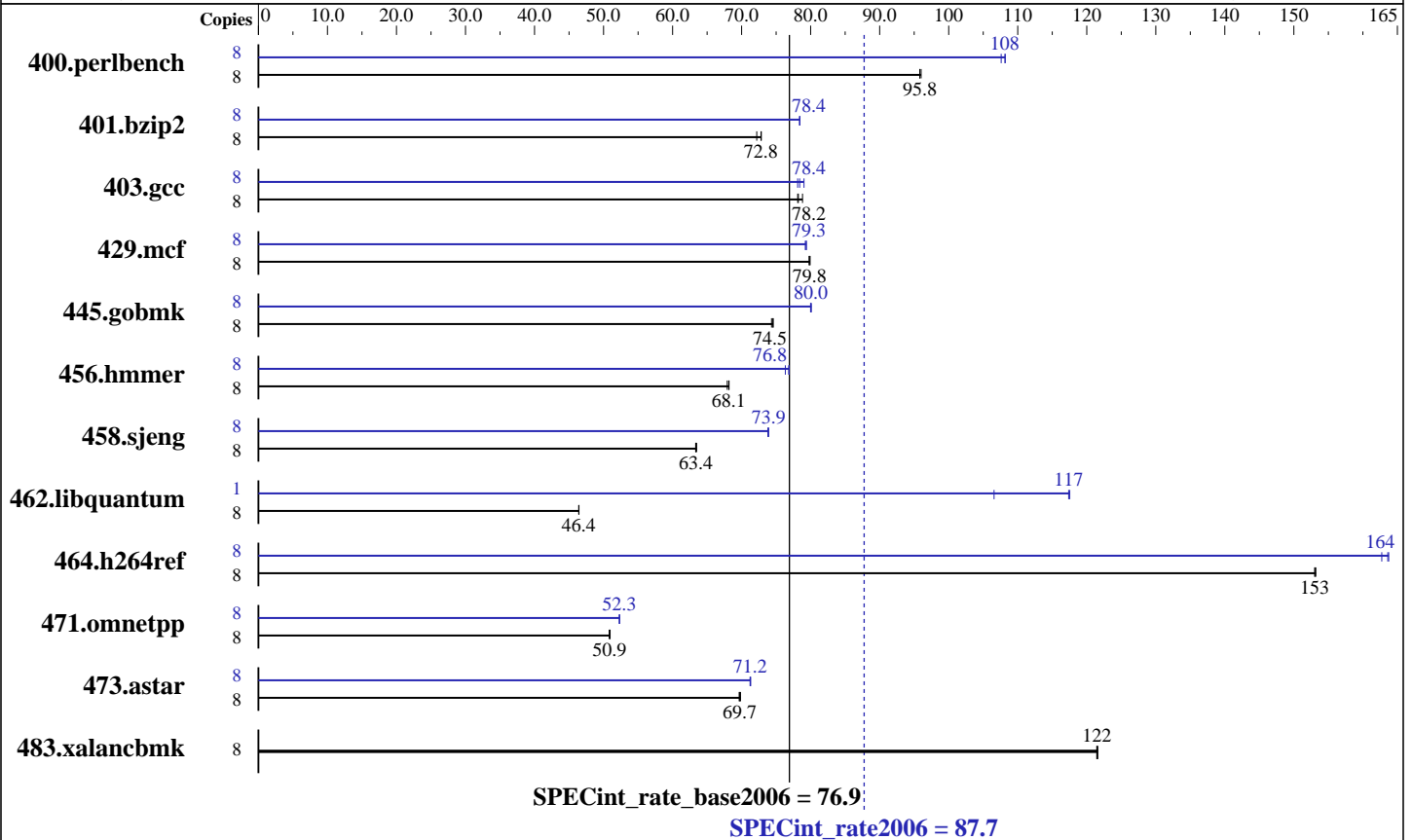
Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Aug-2006

Tested by: Dell Inc.

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.hammer | 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:
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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.xalanbmk: 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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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