



SPEC® CINT2006 Result

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Dell Inc.

SPECint®_rate2006 = 124

PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

SPECint_rate_base2006 = 115

CPU2006 license: 55

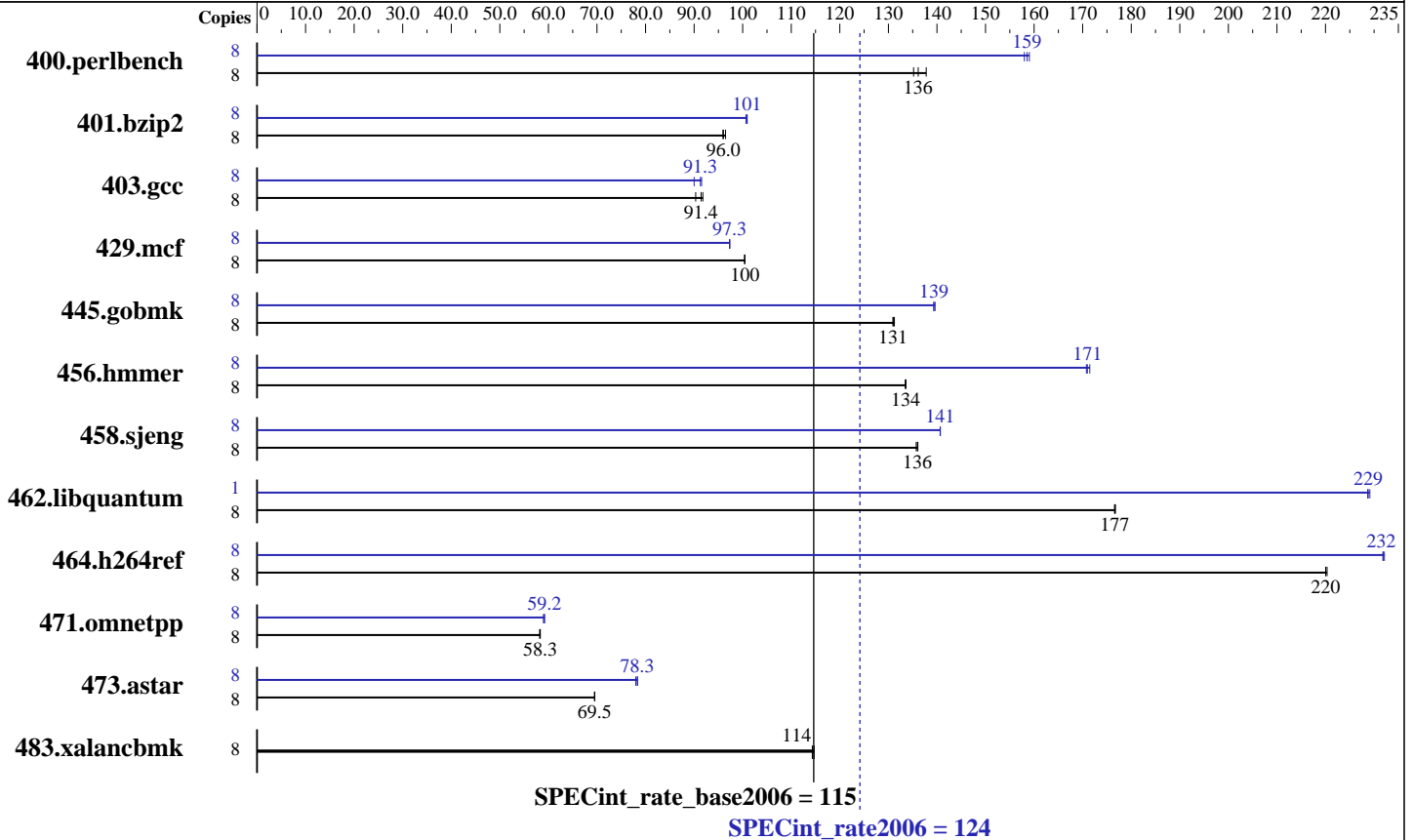
Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon E5420
 CPU Characteristics:
 CPU MHz: 2500
 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 FB-DIMM)
 Disk Subsystem: 1 x 73 GB 15000 RPM SAS
 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 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042
 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



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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 | 578 | 135 | 567 | 138 | 574 | 136 | 8 | 495 | 158 | 493 | 159 | 492 | 159 |
| 401.bzip2 | 8 | 800 | 96.5 | 804 | 96.0 | 805 | 95.9 | 8 | 765 | 101 | 765 | 101 | 767 | 101 |
| 403.gcc | 8 | 704 | 91.4 | 713 | 90.3 | 702 | 91.8 | 8 | 716 | 90.0 | 705 | 91.3 | 703 | 91.5 |
| 429.mcf | 8 | 727 | 100 | 726 | 100 | 726 | 100 | 8 | 750 | 97.3 | 749 | 97.4 | 750 | 97.3 |
| 445.gobmk | 8 | 641 | 131 | 641 | 131 | 639 | 131 | 8 | 602 | 139 | 601 | 140 | 602 | 139 |
| 456.hammer | 8 | 559 | 134 | 559 | 133 | 559 | 134 | 8 | 437 | 171 | 435 | 171 | 437 | 171 |
| 458.sjeng | 8 | 712 | 136 | 713 | 136 | 711 | 136 | 8 | 688 | 141 | 688 | 141 | 688 | 141 |
| 462.libquantum | 8 | 939 | 177 | 938 | 177 | 938 | 177 | 1 | 90.4 | 229 | 90.6 | 229 | 90.6 | 229 |
| 464.h264ref | 8 | 805 | 220 | 804 | 220 | 805 | 220 | 8 | 763 | 232 | 764 | 232 | 764 | 232 |
| 471.omnetpp | 8 | 858 | 58.3 | 859 | 58.2 | 857 | 58.3 | 8 | 845 | 59.2 | 845 | 59.2 | 848 | 59.0 |
| 473.astar | 8 | 808 | 69.5 | 807 | 69.6 | 808 | 69.5 | 8 | 720 | 78.0 | 717 | 78.4 | 717 | 78.3 |
| 483.xalancbmk | 8 | 481 | 115 | 483 | 114 | 483 | 114 | 8 | 481 | 115 | 483 | 114 | 483 | 114 |

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

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

Platform Notes

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

General Notes

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

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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:
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc
-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

401.bzip2: /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

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



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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) -xSSE4.1 -ipo -O3
 -no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc
 -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 -lsmarheap

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 -lsmarheap

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Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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-ic11.0-int-linux64-revA.20090713.02.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.02.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.02.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.02.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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