



SPEC® CINT2006 Result

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Dell Inc.

SPECint®2006 = 28.2

PowerEdge M710 (Intel Xeon E5530, 2.40 GHz)

SPECint_base2006 = 25.4

CPU2006 license: 55

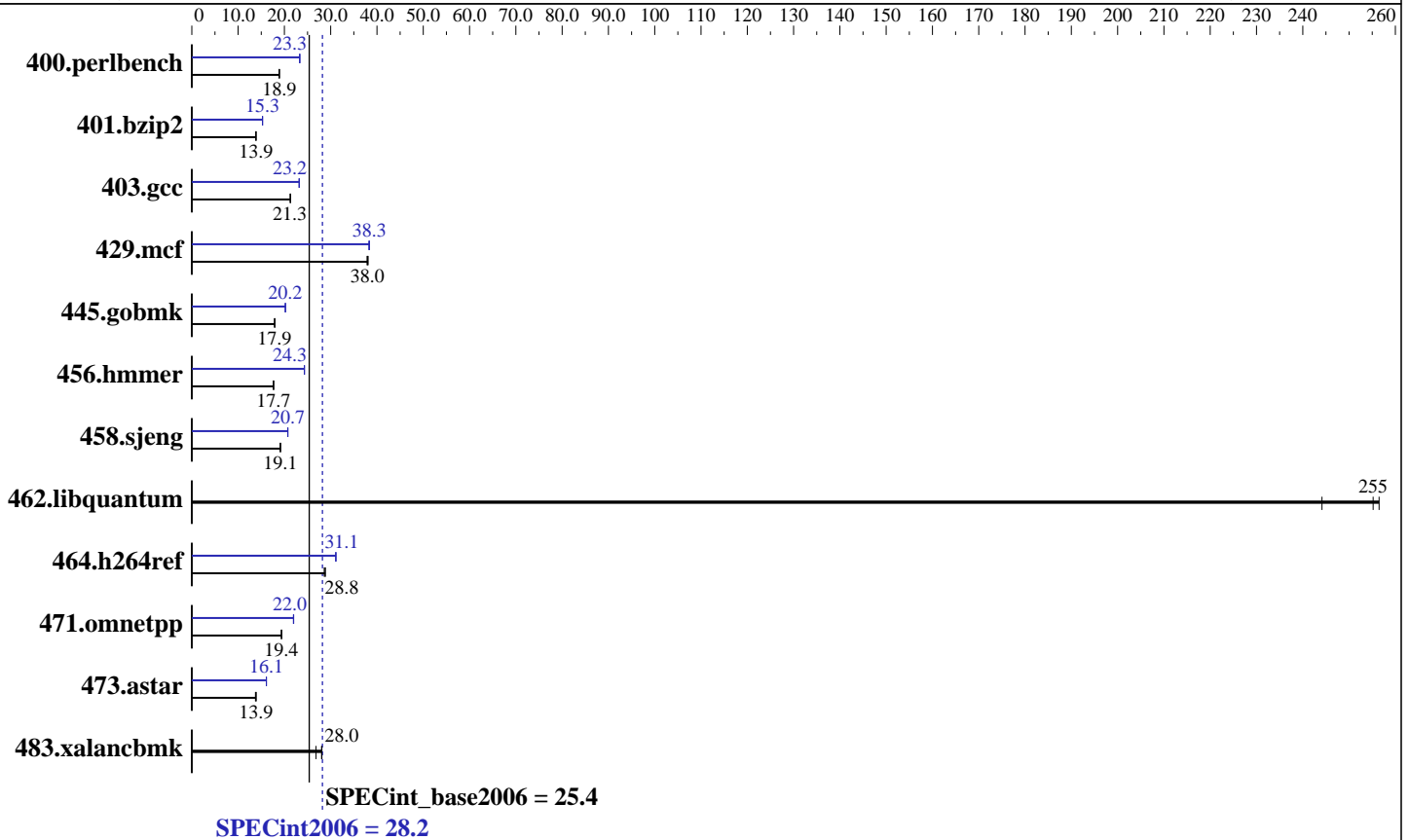
Test date: Mar-2009

Test sponsor: Dell Inc.

Hardware Availability: Mar-2009

Tested by: Dell Inc.

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon E5530
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (6 x 4 GB DDR3-1067 DR RDIMM)
 Disk Subsystem: 1 x 73 GB 10000 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 Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
 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 | | | | | |
|----------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|------------|-------------|-------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 517 | 18.9 | 517 | 18.9 | <u>517</u> | <u>18.9</u> | 419 | 23.3 | <u>419</u> | <u>23.3</u> | 419 | 23.3 |
| 401.bzip2 | <u>696</u> | <u>13.9</u> | 698 | 13.8 | 695 | 13.9 | 632 | 15.3 | <u>632</u> | <u>15.3</u> | 631 | 15.3 |
| 403.gcc | 379 | 21.3 | 377 | 21.3 | <u>379</u> | <u>21.3</u> | <u>347</u> | <u>23.2</u> | 347 | 23.2 | 347 | 23.2 |
| 429.mcf | 239 | 38.1 | 241 | 37.9 | <u>240</u> | <u>38.0</u> | 238 | 38.4 | <u>238</u> | <u>38.3</u> | 238 | 38.2 |
| 445.gobmk | <u>586</u> | <u>17.9</u> | 586 | 17.9 | 586 | 17.9 | 519 | 20.2 | <u>519</u> | <u>20.2</u> | 519 | 20.2 |
| 456.hammer | 528 | 17.7 | <u>528</u> | <u>17.7</u> | 528 | 17.7 | <u>384</u> | <u>24.3</u> | 384 | 24.3 | 384 | 24.3 |
| 458.sjeng | 633 | 19.1 | 632 | 19.2 | <u>632</u> | <u>19.1</u> | 583 | 20.7 | 584 | 20.7 | <u>583</u> | <u>20.7</u> |
| 462.libquantum | 84.9 | 244 | 80.8 | 256 | <u>81.2</u> | <u>255</u> | 84.9 | 244 | 80.8 | 256 | <u>81.2</u> | <u>255</u> |
| 464.h264ref | 774 | 28.6 | 767 | 28.8 | <u>769</u> | <u>28.8</u> | <u>711</u> | <u>31.1</u> | 712 | 31.1 | 711 | 31.1 |
| 471.omnetpp | <u>322</u> | <u>19.4</u> | 322 | 19.4 | 323 | 19.3 | 285 | 21.9 | 284 | 22.0 | <u>284</u> | <u>22.0</u> |
| 473.astar | <u>506</u> | <u>13.9</u> | 506 | 13.9 | 511 | 13.7 | 436 | 16.1 | <u>436</u> | <u>16.1</u> | 436 | 16.1 |
| 483.xalanbmk | 246 | 28.1 | <u>246</u> | <u>28.0</u> | 257 | 26.8 | 246 | 28.1 | <u>246</u> | <u>28.0</u> | 257 | 26.8 |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalanbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch

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Base Optimization Flags (Continued)

C++ benchmarks:

-xSSE4.2 -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/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LINUX

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

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

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Peak Optimization Flags (Continued)

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
-ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=routine -auto-ilp32
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.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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