



SPEC® CINT2006 Result

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Dell Inc.

SPECint®2006 = 28.2

PowerEdge R610 (Intel Xeon E5530, 2.40 GHz)

SPECint_base2006 = 25.4

CPU2006 license: 55

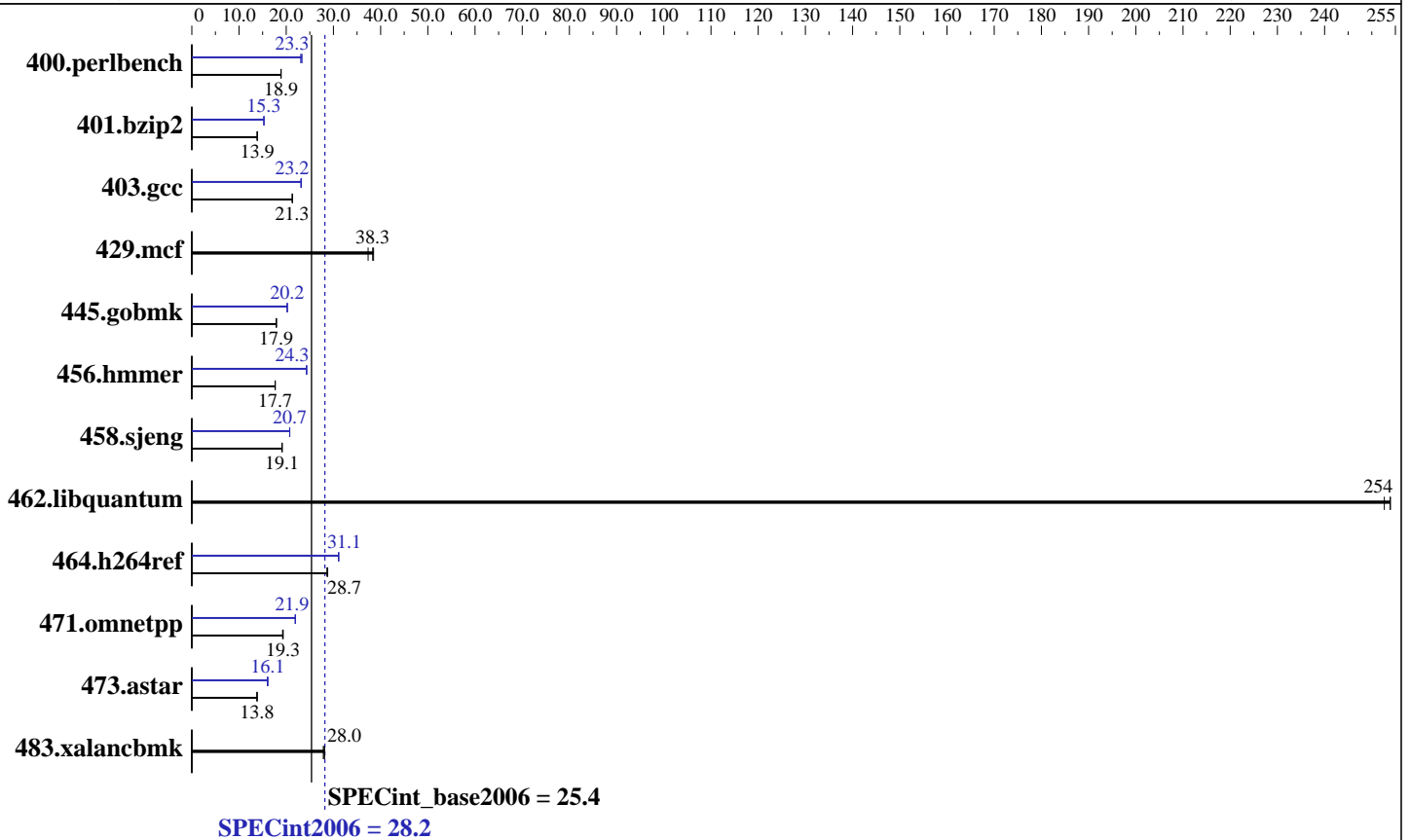
Test date: Apr-2009

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 2.66 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 DDR3-1066 DR RDIMM)
 Disk Subsystem: 1 x 146 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>	424	23.1	<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	<u>632</u>	<u>15.3</u>	632	15.3	632	15.3
403.gcc	377	21.3	378	21.3	<u>378</u>	<u>21.3</u>	347	23.2	<u>347</u>	<u>23.2</u>	348	23.1
429.mcf	244	37.4	237	38.5	<u>238</u>	<u>38.3</u>	244	37.4	237	38.5	<u>238</u>	<u>38.3</u>
445.gobmk	586	17.9	<u>586</u>	<u>17.9</u>	586	17.9	519	20.2	<u>519</u>	<u>20.2</u>	519	20.2
456.hammer	<u>528</u>	<u>17.7</u>	528	17.7	528	17.7	<u>384</u>	<u>24.3</u>	384	24.3	384	24.3
458.sjeng	632	19.1	633	19.1	<u>633</u>	<u>19.1</u>	583	20.8	584	20.7	<u>583</u>	<u>20.7</u>
462.libquantum	<u>81.6</u>	<u>254</u>	82.0	253	81.6	254	<u>81.6</u>	<u>254</u>	82.0	253	81.6	254
464.h264ref	<u>770</u>	<u>28.7</u>	769	28.8	773	28.6	<u>711</u>	<u>31.1</u>	711	31.1	712	31.1
471.omnetpp	325	19.2	323	19.3	<u>323</u>	<u>19.3</u>	<u>285</u>	<u>21.9</u>	285	21.9	285	21.9
473.astar	507	13.9	509	13.8	<u>508</u>	<u>13.8</u>	435	16.1	<u>437</u>	<u>16.1</u>	439	16.0
483.xalancbmk	<u>246</u>	<u>28.0</u>	248	27.9	245	28.1	<u>246</u>	<u>28.0</u>	248	27.9	245	28.1

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

Operating System Notes

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

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.xalancbmk: -DSPEC_CPU_LINUX



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Base Optimization Flags

C benchmarks:

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

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



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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

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-calloc
-opt-malloc-options=3

429.mcf: basepeak = yes

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 -lsmarheap

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 -lsmarheap64

483.xalancbmk: basepeak = yes



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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-ic11.0-int-linux64-revA.20090710.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.xml>

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

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